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NINTH PERIOD

1892—1901.

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COMPARATIVE STATISTICS

OF

LEAD, COPPER, SPELTER, TIN, SILVER, NICKEL, ALUMINIUM, AND QUICKSILVER

COMPILED BY

METALLGESELLSCHAFT

AND

METALLURGISCHE GESELLSCHAFT A.-G.

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◆

INTRODUCTION.

The universal set-back which prevailed during the whole of the year 1901 has also considerably influenced the base metals, with which our statistics are concerned, viz: Lead, Copper, Spelter, and Tin, and in consequence caused a severe fall in prices, as may be seen from the annexed comparison:

	Price beginning 1901	Price end 1901	Fall %	Average price 1901	Average price 1900	Fall %
Lead	£ 16.10.—	10. 2. 6	38,7 %	£ 12.10. 5	16.19. 9	26,3 %
Copper	„ 73.—.—	48.15.—	33,2 %	„ 66.19. 8	73.12. 6	9,1 %
Spelter	„ 18.15.—	16.15.—	10,7 %	„ 17. 0. 7	20. 5. 6	16,0 %
Tin	„ 124.—.—	106.—.—	14,5 %	„ 118.12. 8	133.11. 6	11,2 %

Since the beginning of this year an important rise in prices has taken place, caused partly by the further improvement shown in America in the early months of this year as compared even with the extraordinary good consumption of last year and partly by the considerable improvement in European consumption, which in 1901 had much diminished.

The annexed table shows more exactly:

	Price beginning January 1902	Price beginning June 1902	Rise %
Lead	£ 10.12. 6	£ 11. 2. 6	9,9 %
Copper	„ 49. 1. 3	„ 54.12. 6	11,3 %
Spelter	„ 16. 2. 6	„ 18. 5.—	9,8 %
Tin	„ 102.10.—	„ 136.—.—	32,7 %

A comparison of the increased production of the individual metals in the last ten years, for which we consider it correct to make the comparison between the averages of the two years at both the beginning and end of the period, is given in the following table:

	Average production for the two years 1890/91.	Average production for the two years 1900/01.		Increase %
Lead	570,000	836,000	=	47.0 %
Copper . . .	285,000	493,000	=	73.0 %
Spelter . . .	356,000	493,000	=	38,5 %
Tin	59,000	83,000	=	40,0 %

In this connection it is interesting to observe the development of the demand in the same period in the countries whose consumption comes principally under consideration:

LEAD.

	Average consumption for the two years 1890/91.	Average consumption for the two years 1900/01.	+ = Increase ÷ = Decrease %
Germany	85.400	164.000	+ 92.0 %
France	66.500	91.400	+ 37.4 %
England	166.600	216.500	+ 30.0 %
United States . . .	168.300	258.600	+ 53.6 %

COPPER.

Germany	49.700	96.900	+ 95.0 %
France	29.700	47.600	+ 60.0 %
England	89.300	107.000	+ 19.8 %
United States . . .	92.400	187.000	+ 102.4 %

SPELTER.

Germany	89.900	129.000	+ 43.5 %
France	40,300	58.000	+ 46.1 %
England	78.700	91.600	+ 16.4 %
Belgium	38.000	38.500	—
United States . . .	65.800	107.400	+ 63.2 %

TIN.

Germany	8.700	12.800	+ 47.1 %
France	5,600	6.900	+ 23.2 %
England	17.600	13.500	÷ 23.3 %
United States . . .	16,700	30.300	+ 81,4 %

The solitary decrease apparent is in the tin consumption in England due to the falling-off in the English tinplate industry. The export of tinplates from England to America has greatly diminished since the introduction of the high protective duty which has been followed by the establishment of a domestic tinplate industry in the United States.

During the same period the prices have altered as follows:

	Average price for the two years 1890/91.	Average price for the two years 1900/01.	+ = Increase ÷ = Decrease %
Lead	12.18.3	14.18.10	+ 15,7 %
Copper	52.17.3	70.10. 1	+ 33,3 %
Spelter	23. 4.7	18.18.—	÷ 18.6 %
Tin	92.13.3	126.12. 1	+ 36.6 %

LEAD.

According to our calculations the production of lead in the year 1901 amounted to 838,000 tons. It has thus increased by only about 5,000 tons, while in the year 1900 it was 50,000 tons more than in 1899.

The German production of lead shows an increase of about 1600 tons, and amounts roughly to 123,000 tons. The imports of lead ore have increased nearly 100% to upwards of 100,000 tons. In addition the production of lead ore in Germany has increased about 5000 tons, so that altogether there were available for treatment about 54,000 tons of ore more than in the year 1900. The production of pig lead however has risen by only about 1600 tons, from which it would be inferred (unless, as is improbable, the producers' figures are incorrect) either that the contents of the home-produced or the imported ores have diminished, or that large stocks of ore have accumulated at the smelters. The latter is a matter of common knowledge, but certainly not to such an extent as to furnish a satisfactory explanation of this remarkable fact. The imports of pig lead have materially diminished, and stand at only 52,900 tons as against 70,300 tons in the previous year. The falling-off is mainly attributable to diminished supplies from Belgium, England, and the United States of America. The supplies from these countries amounted to:

From	Belgium	England	United States
		Metric tons	
1901	17,800	7,700	17,700
1900	20,200	8,400	27,800.

The consumption in Germany is therefore estimated at only 155,000 tons as against 173,000 tons in the previous year. In reality however the falling-off will not have been so important, since in the course of the year not inconsiderable stocks which had accumulated have been worked off.

The exports of manufactured lead (sheet lead, leadpipe, wire, shot, etc.) have risen uninterruptedly during the last ten years to more than double, thus:

	1892	1896	1901
Metric tons	5,500.	9,400	12,600.

In these figures the not inconsiderable export of lead in cables has not been taken into account.

The export of lead in chemical products containing lead (litharge, white lead, sugar of lead, acetate of lead, red lead) has also steadily increased, and amounts to:

	1892	1896	1901
Metric tons	18,700	23,400	25,400.

In England the increase in lead production from 35,500 tons to 40,000 tons is due to the increased employment of foreign ores.

The imports rose from 198,500 tons in the year 1900 to 221,500 tons in 1901, and the increase is mainly to be found in larger importations from Spain, Australia, and the United States, as given in the following table:

Imported from	Spain	Australia	United States
		Metric tons	
1901	100,700	61,600	44,200
1900	89,300	54,700	41,400.

The increase in the English consumption, which according to our calculations appears to be 230,000 tons in 1901 as against 203,000 tons in the year before, was in reality perhaps not so great, as there were indications that stocks of pig lead had accumulated at the desilverizing works.

France exhibits an increased production of 2000 tons. Not without interest are the following figures of the quantities imported and exported under "admission temporaire" in virtue of the ordinance of Sept. 4th 1898, which permits a temporary import of lead duty free.

	1898	1899	1900	1901
		Metric tons		
Imports	12,627	13,291	14,688	16,530.

Of these there were re-exported in the form of refined lead, sheet lead, manufactured lead, and lead in chemical products:

	1898	1899	1900	1901
		Metric tons		
Metric tons	6,746	9,465	11,718	12,942.

In Spain the production, which in the year 1898 reached its highest point at 180,500 metric tons, and in the two following years 1899 and 1900 amounted to 162,900 and 154,500 tons respectively, fell off by about 5000 tons more to 149,500 metric tons. We may here remark that, as already mentioned in one of our earlier publications, we insert in our tables as the production figures the export figures of the Spanish statistical department, which we check as far as possible by the import figures of the individual receiving countries, almost the whole Spanish lead production being exported. In these figures the quantity of lead which remains for domestic consumption in Spain is not included; according to Spanish estimates it would amount to about 15,000 tons per annum, but this figure may perhaps be put too high.

The United States of America, which in the year 1900 showed an increase in lead production from native ores of about 54,000 tons, exhibit in 1901, with a production of 241,000 tons, a falling-off of about 10,000 tons. This reduction is attributable to the policy of the great Lead Trust (American Smelting and Refining Company) that controls the American lead trade, and limits its production in order to keep up the price. To effect this it has to compensate the mining Companies which it has induced to produce less ore, for the diminished output; nevertheless pretty large stocks appear to have accumulated.

The annexed printed Balance-Sheet with Profit and Loss Account to 30th April 1901 gives the financial results of the American Smelting and Refining Company.

AMERICAN SMELTING AND REFINING COMPANY.

Assets and Liabilities at Close of Business April 30th.

ASSETS	1900	1901
Real Estate, Plant and Machinery	$ 48,994,499.38	$ 85,228,234.63
Inventory of Stock on Hand	„ 11,773,923.10	„ 22,982,895.24
Cash, Accounts Receivable, Bills Receivable, Stock and Bonds	„ 3,028,974.02	„ 4,410,303.16
Treasury Stock	„ 10,200,000.—	
	$ 73,997,396.50	$ 112,621,433.03

LIABILITIES	1900	1901
Accounts and Bills payable	$ 4,764,488.65	$ 7,678,083.91
Bonds Outstanding	„ 2,253,000.—	„ 1,053,000.—
Capital Stock	„ 65,000,000.—	„ 100,000,000.—
Profit and Loss	„ 1,979,907.85	„ 3,890,349.12
	$ 73,997,396.50	$ 112,621,433.03

PROFIT AND LOSS ACCOUNT PER APRIL 30TH 1901.

Surplus, per statement April 30th 1900	$ 1,979,907.85	
*Earnings, 12 months ending April 30th 1901, including Earnings for 4 months of the Guggenheim Plants	„ 5,988,049.38	$ 7,967,957.23
Betterments and repairs	$ 888,409.73	
Interest and Taxes, General Expenses and Consolidations Expenses	„ 1,271,198.38	
Less four Dividends paid on Preferred Stock	„ 1,918,000.—	„ 4,077,608.11
Balance to credit of Profit and Loss, 30th April 1901		$ 3,890,349.12

*) The net Earnings of the Guggenheim Plants for the first eight months of the fiscal year, ending April 30th 1901 $ 2,756,661.76.

Adding this to the above shows the net Earnings of the combined Companies for the period of this statement to have been $ 6,585,103.03.

In Mexico, which formerly exported a large part of its ore, principally to the United States, lead-smelting has greatly extended, and consequently the export of ore has much diminished.

The production of pig lead in Australia has risen by some 3000 tons as compared with the previous year; the exports to Europe and America have increased by about 5000 tons. To the three mines mentioned in our previous year's statistics which had to stop work owing to the unsatisfactory market for lead, viz: the Broken Hill Junction Mining Co., the North Broken Hill Silver Mining Co., and the Broken Hill Junction North Mining Co., has to be added in the course of the year under review the British Broken Hill Proprietary Co. Ltd. The fall in production arising from the stoppage of these four mines would amount to about 25,000 tons per annum. In the figures for 1901 however the full effect is not yet felt, since the Broken Hill Junction Mining Co. and the Broken Hill Junction North Mining Co. stopped work in February, the North Broken Hill Silver Mining Co. at the beginning of June, and the British Broken Hill Proprietary Co. Ltd. at the end of July.

While the price of lead in London, as already mentioned in the Introduction, steadily fell from £ 16.10/- at the beginning of the year 1901 to £ 10.2.6 in December, only gradually recovering in the present year and momentarily fluctuating between £ 11 and £ 11.10 -, it was actually possible in the United States through the above mentioned policy of the American Smelting and Refining Co. to maintain the high price of $4^3/_8$ cents per lb. — £ 20 per English ton, for nearly the whole year, in connection with which it must be observed that the import duty on lead in America amounts to $2^1/_8$ cents per lb. = £ 9.15/- per English ton.

The following table shows the average prices in London for foreign lead in each month of recent years and the early months of the present year:

	1895	1896	1897	1898	1899	1900	1901	1902
January . . .	£ 9.12.10	11. 3. 1	11.14. 4	12.10. 2	13. 7. 6	16. 5.11	15.18. 6	10.11. 4
February . .	„ 9.12.11	11. 7. 1	11.14. 2	12. 7. 3	14. 7.—	16.10.10	14.13. 4	11.12. 4
March	„ 9.17. 6	11. 2. 6	11.11. 3	12.13.—	14. 3.—	16.12. 3	13. 7. 7	11.10. 2
April	„ 9.19. 5	10.19. 4	11.15. 9	13. 1. 3	14. 7. 6	16.14. 8	12. 8. 5	11.11.11
May	„ 10. 2. 9	11. 1. 3	11.16. 9	13.14.—	14. 2.11	16.18.—	12. 5. 6	11.12.—
June	„ 10. 6. 2	11.—. 1	11.18. 3	13. 8. 9	14. 5. 8	17. 4. 6	12. 6.10	11. 5. 5
July	„ 10.12. 9	11.—. 5	12. 5.—	12.19.—	14. 7. 9	17.10. 8	12. 3.—	
August . . .	„ 10.18. 5	10.16.11	12.13. 7	12.16.—	14.14. 8	17.12. 8	11.13.10	
September . .	„ 10.18. 3	11. 3. 2	13.13.—	12.16.—	15. 5. 4	17.13. 4	11.19. 1	
October . . .	„ 11. 5.—	11. 3. 2	13.11. 6	13. 1.—	16. 3. 7	17.11.11	11.12.—	
November . .	„ 11. 9. 1	11. 9.10	13. 2.—	13. 8. 3	17. 1.11	17. 4. 7	11. 5. 4	
December . .	„ 11. 8. 8	11.10. 6	12.12.—	13. 2.—	16.17. 8	16. 4. 8	10.10. 8	
Average for the year	£ 10.10. 3	11. 3. 1	12. 7. 4	12.19. 8	14.18. 8	16.19. 9	12.10. 5	

COPPER.

The events which have happened in the Copper market during the past year furnish one more proof that an artificial level of prices, even when brought about by people thoroughly experienced in market manipulation and provided with ample resources, does not last for any length of time, that combined speculation in Copper and Copper Shares entails great risks, and if carried to the point of monopolization may be extraordinarily mischievous in its working.

In spite of the continuously good demand in the United States of America the stocks at the American mines and smelting works grew apace month by month until towards the end of November. Then within a comparatively short time a large part of these stocks were got rid of at considerably lower prices. The quotation for Lake Copper in New York, which throughout the year had varied from $16^3/_4$ to 17 cents per lb., fell to 13 cents, and electrolytic copper dropped from £ 79. 10/- to £ 59. The price of Standard copper in London, which from £ 73 at the beginning of the year had fallen by degrees and in November varied between £ 64 and £ 67, fell in the last days of November and December until in the second half of December it reached at £ 47. 10/- the lowest point that had been known since 1897.

The considerable sales of Copper were preceded by very large sales of Copper shares on both American and European markets, generally ascribed to the Amalgamated Copper Co. and the individuals and firms associated with them. These sales are said to have been for the most part "Bear"-sales. It was repeatedly asserted that the group concerned had made considerable sales of their own shares, viz: those of the Amalgamated Copper Co. and also of the Companies controlled by it, as for instance the Anaconda. In this connection it should not be overlooked that the Amalgamated Copper Co. publishes no reports, and that the Companies controlled by it have departed from their former practice of rendering annual reports and statements of their production, their working expenses and financial position.

Honestly managed mining Companies however should have no ground whatever for withholding information, since on the whole, competition plays no part in mining, and the Companies cannot do themselves any harm by giving such details. As a matter of fact this is done in most cases, and it would undoubtedly be to the general interest if the admission of mining securities on the Bourses were made conditional on such publication.

To our previous year's notice of the Amalgamated Copper Co. we can only add the little that is allowed to be known, viz: that they increased their capital from $ 80,000,000 to $ 155,000,000 in order to acquire the Boston and Montana and the Butte and Boston Companies, and that they have appreciably reduced their dividend. Thus the dividend declared for the first quarter of this year was only ½%, whereas the dividend for December amounted to 1%, that for October to 1½%, and for the previous quarters to 2%. The price of the shares dropped from $ 130 in June to $ 60½ in December, stood at the beginning of February this year at about $ 79, falling again to the present figure of about $ 64.

Whatever the working expenses of American Copper Producers may be, it is to be supposed that in recent years they have considerably increased owing to the rise in coal and wages.

How greatly the European consumption had diminished its purchases and how short were the stocks at the Copper manufacturing works and in the market can best be seen from the important increase in the consignments from the United States since the drop in price. These consignments amounted to:

In January	1902	15,021	English	tons
„ February	„	16,108	„	„
„ March	„	20,097	„	„
„ April	„	16,424	„	„
„ May	„	16,283	„	„
„ June	„	12,422	„	„

thus averaging 16,000 tons a month as against 7,900 tons in the previous year. In these are included apparently large quantities of electrolytic copper, which in consequence of the shortage of market copper in England were shipped from America to fulfill the sales of Standard Copper effected in London in November and December for delivery in three months.

The annexed statement of the American copper shipments during the last two years gives an idea of the serious falling-off in the European consumption in the year 1901.

COPPER EXPORTS FROM THE UNITED STATES OF AMERICA.

English Tons.

	1901.	1900.
January	10,003	14,035
February	8,453	12,749
March	6,818	20,148
April	4,849	12,764
May	10,062	13,997
June	9,842	16,586
July	6,824	11,636
August	6,840	13,861
September	6,419	10,425
October	8,016	12,682
November	6,367	9,508
December	10,171	11,223
Total:	94,664	159,614

These consignments thus average only 7,900 English tons per month for the year 1901 as against 13,300 English tons per month for 1900.

A part of the reduction in American shipments was no doubt accounted for by withdrawals from the public warehouses in England and France as well as by the working up of private stocks, although here it must not be forgotten that withdrawals from public warehouses are partly included again in the exports to America. The public stocks were reduced by 9,000 tons and amounted at the end of the year to only about 16,000 tons. During the early months of the present year they have gradually grown to about 19,000 tons and now stand at 16,000 tons.

The most important factor in the falling-off in European consumption has been Germany, where the consumption (which from about 55,000 tons in the year 1893 continuously rose to 109,000 tons in 1900, thus doubling itself within seven years) in the year 1901 fell to 85,000 tons, thus suffering within a twelvemonth the severe decline of 24,000 tons, equal to 22 %.

In France the decline in copper consumption in the past year amounted to 10,000 tons.

In England the exports of pig copper rose from 37,300 tons to 50,400 tons, and included reshipments to the United States of a total of 21,000 tons. As already previously remarked, this is the copper, partly Australian, Chilian and Japanese, that was transported to the East Coast ports of America by way of England, and partly the copper withdrawn from English warehouses. It is not correct in calculating the English copper consumption to reckon the whole reduction in the public stocks as English consumption, but there is no other course open to us, as we cannot state with certainty the quantity withdrawn from the public warehouses which has been included in the exports. Thus the figure at which we put the English consumption is too high by this quantity. It must be remembered however that the English copper industry, especially for war purposes, was better employed than those of other European countries. For electrical purposes also more was consumed, since the electrical industry in England, in contrast with other countries, began for the first time to expand vigorously.

For the first five months of 1902 the imports of pig copper into England are put at 48,600 tons, as against 27,400 tons in the corresponding period of the previous year. In Germany though the increase is not so large, it nevertheless amounts to 6,800 tons, since the imports of pig copper rose from 25,600 tons in the first five months of the previous year to 32,400 tons in the corresponding period of this year.

The recent establishment of the "United Copper Company" is interesting; this Company, as appears from the following details, has evidently proceeded on the lines usual in America of late. The Company is incorporated with a Capital of 800,000 shares of $ 100 = $ 80,000,000, of which $ 5,000,000 are in 6% Preference and $ 75,000,000 in Ordinary shares. Of these $ 5,000,000 Preference and $ 45,000,000 Ordinary shares have been issued for the purchase from Messrs Heinze of Butte of the following mines, which are said to produce 20,000 tons of copper yearly:

	Share Capital	
	Shares	Nominal value
95% of the Share Capital of the Montana Ore Purchasing Co.	100,000	$ 25
95% „ „ „ „ „ „ Nipper Consolidated Copper Co.	150,000	$ 25

$ 850,000 of the 6% Bonded debt (total amount $ 1,000,000) of the Montana Ore Purchasing Co.
$ 2,500,000 of the 6% Bonded debt of the Nipper Consolidated Copper Co.

besides 95% of the Capital of the Company or Companies which are intended to be created for the purchase of the mines belonging to the above named gentlemen, the Corra, Rock Island, Minnie Healey, Belmont, etc. mines.

Of the Preference shares $ 2,500,000 were taken over by a syndicate, at par the other $ 2,500,000 remain meanwhile in the possession of Messrs Heinze; $ 15,000,000 of Ordinary shares have been handed over to Bankers for sale not under $ 30; and $ 30,000,000 the Company retains in its portfolio.

The world's production of copper arccording to our Summary (Table VII), which includes the smelting production, has risen in the year 1901 by more than 15,000 tons, and has consequently reached a total of half a million tons[1]). According to the tables of Henry R. Merton & Co. Ltd. London, which summarize the mine production of copper, it is estimated at as much as 520,000 tons, or equivalent to a rise of 26,000 tons. The increase is due almost entirely to Australia, Canada, Chile, Peru, and Mexico, where the production in the last five years has considerably increased, as may be seen from the following figures:

	Production		Increase in five years
	metric tons.		
	1897:	1901:	
1. Australia . . .	17,300	31,400	14,100
2. Canada	6,000	19,100	13,100
3. Chile	22,300	30,500	8,200
4. Peru	1,000	9,700	8,700
5. Mexico	13,600	24,200	10,600
	60,200	114,900	54,700

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[1]) According to the publications of the "Copper Producers' Committee" which however does not include all producers, the production in the early months of this year rose further and amounted in the months

	January to May 1902 inclusive	as against January to May 1901 inclusive
	metric tons.	
European production	44,800	38,900
American production	115.500	110,800

The production in the United States, so far as it is derived from native ores, remains on the whole about the same as in previous years. The recovery of copper from the smelting of foreign ores and intermediate products has however considerably increased and amounts to about 28,400 tons as against 15,600 tons in the previous year. According to the information for the first time at our disposal the following raw materials were probably used for this purpose in the year 1901:

Matte and other intermediate products	containing	22,000	tons	copper
Ores	„	100	„	„
Pyrites	„	2,900	„	„
Canadian Nickel matte	„	3,400	„	„

Even though the stocks at the mines and smelting works in the United States are annually calculated by professional statisticians, the basis seems to us to be so far from reliable that we cannot yet make up our minds to accept their figures in our statistics. But the question of these stocks in consequence of the events in the American market above described has become of such real importance that we cannot pass it over in silence.

The North American stocks are stated according to American estimates to have amounted on Jan. 1st 1901 to 42,000 tons. With this figure as a basis, and assuming that the American consumption in the year 1901 amounted to about 15,000 tons a month and that it has still further increased until, since the beginning of this year it has risen to about 18,000 tons a month (both suppositions very widely entertained at the moment, which may well be correct, but which nevertheless rest upon more or less rough estimates) then it follows, that the stocks towards the end of November 1901 had increased to 95,000—100,000 tons, and that on the 1st May of this year they had fallen again to about 70,000 tons.

That the stocks in 1901 had very greatly increased there can be no doubt, for quite apart from numerous market symptoms and statistical estimates bearing on the subject, the large shipments of American copper in the early months of this year could never have taken place if heavy stocks of marketable copper had not accumulated in the United States.

What did the stocks on January 1st 1901 consist of, if they were correctly estimated at 42,000 tons? If of marketable copper it would have then already reached an alarmingly high level, whilst now we have to deal with a stock of 70,000 tons, at which we arrive by the beginning of May 1902, on the basis of above figures. If the estimate however refers to the total stocks of pig copper, of copper in ores, intermediate products, and argentiferous copper, the matter presents itself in quite a different light. As is well known, for the sake of regular supply as well as for the carrying on of the process of treatment, especially if it terminates in electrolytic refining, considerable stocks must always be held. To be able to furnish reliable figures on this point one must have an accurate record of the working methods and also of the practice with regard to reserves of raw material of every individual mine and smelting works in the United States, in order to calculate an average. Failing this there remains nothing but to content oneself with rough estimates. We shall probably not be very far from the truth if we assume that at the important establishments there are always to be found, in reserve-stocks and in process of treatment, quantities of copper in the form of rough and dressed ore, matte, black copper, and other intermediate products corresponding to the production of two months at the least.

Now since at the beginning of 1901 the American production from native and foreign material amounted to about 26,000 tons a month, there must have been in existence according to the above estimate, approximately 50,000 tons in ore and intermediate products, so that if the estimate of only 42,000 tons as the total stocks was correct these stocks must have been cut down remarkably close and there cannot have been any marketable copper in warehouse. A total stock of 70,000 tons, as calculated for the beginning of May this year, leaves it to be presumed, especially in view of the increased production of 27,000—28,000 tons of copper per month that either stocks of approximately 15,000 tons of marketable copper existed at the places of production [1] or that the stocks of raw material and intermediate products for treatment had accumulated beyond the absolutely necessary quantity.

Neither supposition however finds for the moment any confirmation from daily observation, which rather permits us to conclude that no superabundance exists either of marketable copper at the places of production or of intermediate products. [2] Shipments of electrolytic copper from North America come on rather slowly after being specified — which, as our annual reports show, has previously very often been the case — and North American enquiry for copper for electrolytic refining in consequence of the establishment of new refining works makes itself continually noticeable. This kind of situation can of course be produced artificially, but the passing indications of daily business are inconsistent with this.

On the whole it is clear that all statistical statements regarding stocks in the United States must be received with great caution so long as the American producers are indisposed to give reliable information respecting the stocks of marketable copper they happen to hold. Such statements would be particularly desirable as regards America, seeing that the American copper production is upwards of half that of the whole world, and that therefore their stocks at any given moment play a much more important part than those at the mines and smelting works in other producing countries. For these stocks also there are so far no data whatever available; to all appearances however they are subject to less alteration in the course of time than the American, because the producers are accustomed to bring their produce to market regularly, whereas many of the American producers are, as experience shows, compelled to serve the interests of speculators in copper and copper shares.

Greater claims to accuracy can naturally be made by the regular successive fortnightly publications of the state of the stocks in public warehouses in England and France. But clearly the same importance can no longer be attached to them for forming a judgment on the relation of consumption to production, since they amounted for some time past to only 15,000—20,000 tons with a yearly production of 500,000 tons, while before that they fluctuated between 50,000 and 100,000 tons with a production of only 300,000—400,000 tons. Seeing how transport has been accelerated in course of time by improved means of communication and the rapid interchange of news by cable they are wellnigh superfluous from the point of view of consumption, as is the case with the other metals, of which (with the exception of tin) no public stocks exist. The public stocks of copper at the present stage have no real importance except as some guide to speculative dealing in Standard copper on the London Exchange.

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[1] It is of course not the same thing whether the copper is lying at the works or is en route to the American copper manufacturers and to Europe. The quantities thus en route may always on the average be taken as equal to a month's production.

[2] The existence of stocks of Lake Superior copper at the works is possible. though definite indication of this is wanting. A stock of 15,000 tons spread over the American works is nothing startling: a matter of much greater importance is how the future consumption will accommodate itself to the increased production, which naturally cannot yet be judged.

The fluctuations in the price of Standard copper in London during the last seven years and the early months of the present year may be seen from the annexed table:

		1895	1896	1897	1898	1899	1900	1901	1902
January . . .	£	40.13.10	41.13. 8	50.10. 8	48.18.—	62.18.—	70.14. 2	71.17.—	**48.10.10**
February . .	„	39.14. 3	44.16.10	51. 6. 3	49.10.—	72.17.—	74. 4.10	71. 5. 2	**55. 5. 8**
March . . .	„	39. 1. 9	45. 8. 1	50. 4.—	50.11.—	69. 1.—	77.19. 5	69.13. 5	**53.10. 8**
April . . .	„	40. 3. 7	45. 3. 2	48.16. 9	51.14.—	74.10.—	78. 7. 1	69.14. 6	**52.18. 8**
May	„	43.—.—	46. 6. 6	48. 8. 7	51.10.—	77. 5.11	74. 1. 9	69.15. 5	**54. 3.—**
June	„	42.15. 7	48.18.—	48.18. 9	50. 8.—	76. 2.—	71.14. 3	68.18.11	**54.—.—**
July	„	44.—. 2	49. 3. 7	47.18. 5	50. 3.—	76.19. 4	72.11. 5	67.13.—	
August . . .	„	46.13. 2	47.16.10	48.10. 2	51.10.—	76. 4. 7	73.12. 5	66. 7. 8	
September . .	„	46.15. 5	47.18. 7	49. 6. 2	52. 2. 6	76.15. 7	73.15. 1	65.19.10	
October . . .	„	46. 4.11	47.11. 7	48. 8. 1	53. 8.—	75. 3.11	72. 7. 7	64. 4.—	
November . .	„	43.16. 3	49. 3.11	47.18. 1	55.19.—	74. 8. 6	72. 9. 4	65. 9. 3	
December . .	„	42.15.11	48.16.10	48. 4. 4	55.19.—	71.19. 7	72. 9. 4	52. 6. 5	
Average for the year	£	42.19. 7	46.18. 1	49. 2. 7	51.16. 7	73.13. 9	73.12. 6	66.19. 8	

SPELTER.

The production in the year 1901 rose by about 29,000 tons to 507,000 tons. While the increase mainly falls upon the United States, Germany, Belgium and Holland the consumption in the United States rose so considerably that the American exports which in the year 1900 had increased to upwards of 20,000 tons, fell to 3,000 tons. As these have now for some months past entirely stopped and so far there are no present indications that stocks have accumulated, it is to be presumed that the extraordinarily large consumption of the United States which follows from our figures is an actual fact. On the other hand the German increase in consumption of upwards of 7,000 tons was perhaps not quite genuine, since stocks had accumulated at the smelting works. Since the beginning of this year however these stocks have been appreciably reduced, so that this year's consumption, as far as the position can at present be estimated, will in all probability stand higher than the statistics will indicate.

In the United States of America the Joplin mining district in Missouri has contributed most to the increase in production. The output of ore from it rose in the year

	1901	to about	232,000	tons
as against	1900		222,600	„
	1899		232,000	„
	1898		213,400	„
	1897		162,000	„
	1894		134,000	„

The prices of Joplin Blende have recently, owing to production scarcely keeping pace with the growing demand, considerably risen; for example 60 % ores, which 6 months ago could be bought for $ 27, today fetch $ 32 or more.

For the Zinc smelting industry in the United States the Iola district in Kansas has become the principal centre of production; in recent years most of the Missouri and also some of the other smelters have endeavoured to transfer their works to Kansas, where the extensive natural gas-fields furnish an excessively cheap fuel, so that smelting works there can manufacture Spelter considerably cheaper than those European works which have to reckon on high priced coal. The Spelter production of Kansas has in the space of five years more than doubled. It amounted to

69,300 tons in 1901
as against 56,700 „ „ 1900
48,600 „ „ 1899
38,600 „ „ 1898
30,300 „ „ 1897

New works are in course of erection in the district and the old ones are continually enlarging their establishments. The production in Missouri, which in the year 1899 amounted to 16,600 tons, has fallen off to 8000 tons.

The American consumers, chiefly the brass and zinc manufacturers and zinc-rollers, were very well employed during the whole of the year 1901, and absorbed apparently almost the whole production, that is to say about 122,000 tons out of 125,000, while the consumption in the previous year was estimated at only 92,700 tons; whence it is certainly to be concluded that the consumption in 1900 was really larger and was partly covered out of existing stocks, so that the increase in the year 1901 was not quite so great as would follow from a comparison of the two figures.

In the course of the period under review influential efforts were made to unite the American zinc smelting works in a Trust. With this object a Company was projected: "The Zinc Smelting Corporation" with a Capital of $ 50,000,000, half in 7 % Preference shares and half in Ordinary shares. The project is not yet actually abandoned, but there is apparently no prospect of its being carried out.

In consequence of the fall in prices, many zinc mines, especially those which during the former high prices of Spelter were able to raise poorer ores, stopped or reduced their operations. The lack of zinc ores prevailed during the whole of the year 1901 and still continues. Thus the extraordinarily unfavourable situation of zinc works devoted to treatment of foreign ores, already referred to in our last report, has shown no change for the better, the less so as the price of coal has not declined proportionately to the particular and general position.

In December last the efforts induced by the fall in the price of Spelter to form a convention among the European producers appeared after tedious negociations, which lasted through the whole year, to be coming to a satisfactory conclusion. At the last moment however they were frustrated by the opposition of a Silesian producer, and since then have not been resumed.

Nevertheless since the beginning of the present year a considerable rise in prices has taken place, which is accounted for by the favourable development in the demand. To all appearances the zinc industry is almost everywhere well employed, both sheet-zinc as well as galvanised iron being in steady and strong demand. For example the English exports of galvanised iron in the first five months of the present year have already reached a total of 135,748 English tons, while in the corresponding period of the previous year they amounted to only 99,682 English tons.

The demand for Spelter in England is thus also much greater, so that the imports in the months of January to May inclusive, of the present year, have risen to 39,700 tons (of which about 14,000 tons came from Germany) as against 27,000 tons in the corresponding period of the previous year.

From the annexed table can be seen the average prices of ordinary brands of Spelter in London for each month of the last seven years and the early months of the present year:

	1895	1896	1897	1898	1899	1900	1901	1902
January	£ 14. 4. 9	14. 5.11	17.16. 4	18.—.—	24.17.—	21. 3. 6	18.13. 3	16.13.—
February	„ 13.18. 9	14. 8. 9	17.14. 2	18.—. 6	27. 8.—	22. 3. 8	17.13. 7	17.14. 2
March	„ 13.12.11	15. 3. 8	17.14.11	18. 7.—	27. 6.—	21.11.11	16.11. 4	17.13. 4
April	„ 13.18. 8	15.14. 3	17. 6.—	18.13. 5	28. 1. 6	22. 2.10	16.11. 4	17.17.—
May	„ 14.13.11	17. 3. 9	17. 3.—	19. 4.—	28.10.10	21.12. 3	17. 6. 3	18. 9.—
June	„ 14.12.—	18. 3. 6	17. 5.—	19.14.—	26.11.11	19.19. 7	17. 5. 9	18.11. 8
July	„ 14.13. 2	17.16. 4	17. 1. 6	20. 5.—	25.13. 1	19.19. 6	16.11. 4	
August	„ 15. 7. 2	17. 3. 5	17. 1. 6	20. 7. 6	24.—. 8	19. 8. 1	16.15. 7	
September	„ 15. 6. 4	16. 3. 1	17.10. 3	21.11.—	22.16. 3	18.19. 5	16.16. 8	
October	„ 15. 5. 2	16.13. 8	17.14. 9	23. 2. 6	22. 1. 4	19.—.10	16.18. 1	
November	„ 15. 1. 6	17.11. 7	17.18.—	24. 7.—	20.15. 8	19.—. 5	16.17. 5	
December	„ 14.12. 6	17.13. 6	18. 1. 6	23.14.—	20. 3. 9	18.13. 8	16.11. 8	
Average for the year	£ 14.12. 2	16.11.10	17. 9.10	20. 8. 9	24.17. 2	20. 5. 6	17. 0. 7	

TIN.

That this article — which from the purely speculative standpoint offers the advantages that it has few sources of production, that its annual production in comparison with other metals is unimportant in quantity, and that a shifting of a few thousand tons in the visible stocks and imports can very easily change the whole position — presents ever fresh opportunity for excessive speculation, is again shown by the events of the past year; for the position described in our last year's issue, of Tin warrants for delivery in three months being sold at lower prices than warrants for immediate delivery, continued through the whole year; the difference in price ranging from £ 2 to £ 5 and temporarily reaching in November even as much as £ 8 per ton.

With an article of this kind, the statistics of which are so much more susceptible than others to artificial influences, it follows that in times of very active speculation anticipations based on examination of the statistics utterly break down.

If we look only at the statistics without making strict allowance for the actual circumstances the following is the result:

The consumption of tin in the year 1901 for the first time for a series of years has failed to keep pace with the increased production. The latter which in 1900 had already increased about 10 % has further risen about 10 % to upwards of 86,000 tons, whilst the consumption remains almost stationary at 76,300 tons.

The shipments from the Straits to Europe and America amount to about 50,000 tons, equal to 58 % of the production; the sales of Banca-tin in Holland as well as the consignments from Bolivia have risen since the year 1896 to more than double. The decrease in the production of Billiton-tin of about 1,500 tons is only apparent, as in the last year larger quantities of Billiton-ore were smelted in Singapore which then comes into the market as Straits tin.

The stocks of tin in Europe and America, which in recent years had fallen to about 20,700 tons, have increased again considerably, and were estimated at the end of the year at about 26,000 tons. Of the increase about 4,000 tons fall to the United States of America.

Germany has had to yield to England the position she had attained during the last few years as the largest consumer next to the United States of America. While the consumption in Germany has remained about the same, at 12,700 tons, as in the years 1899 and 1900, the consumption in England, which in 1900 had already risen by about 3,000 tons, has apparently further increased by about 1,800 tons and amounts to 14,300 tons.

The consumption in the United States however appears to have undergone a diminution of about 2,600 tons, which in all probability was mainly due to the falling-off in the tinplate production following on the strike at the United States Steel Corporation's works. During the United States Steel Corporation's business year 1901/02 the output of tinplate amounted to 404,746 tons; for the earlier years we have no figures.

At the beginning of the year the price of tin stood at £ 124; after violent fluctuations it was pushed up in July to £ 140, but it then steadily fell and oscillated during the second half of the year between £ 110 and £ 120.

At the end of the year it was quoted at £ 106, having only a few days before, in consequence of the failure of a London metal house which had large commitments in tin, reached its lowest point at £ 99.

In the early months of this year the price has considerably risen again, so that the average for the month of May works out at £ 134.13.10.

The annexed table gives a resumé of the monthly average prices of foreign tin in London during the last seven years and the early months of this year:

	1895	1896	1897	1898	1899	1900	1901	1902
January .	£ 60. 3. 4	59. 5. 9	60. 5. 1	63. 1. 7	99.16. 4	118. 9.11	120. 9.10	105. 6. 5
February .	„ 60. 1. 1	60.14. 4	61. 4. 3	63.15.11	108.16. 3	137.18. 4	122. 6.11	114. 4. 9
March . .	„ 61. 5. 4	60. 7. 9	59.18. 9	65. 1.—	107.16. 8	142.—.—	116.15. 6	115.10. 6
April . .	„ 63.18.11	59.13.10	59.18. 1	65. 3.—	114. 1. 1	137.15.—	116. 3.—	125.14. 2
May . .	„ 65.13. 7	60.—. 4	60.17.10	66. 6.—	117. 9. 6	135. 1. 8	123.13.—	134.13.10
June . .	„ 62.14. 2	60.14. 3	61.16. 6	68.15.—	117.12.—	139. 9. 3	129.16.11	
July . .	„ 64. 8.—	60.17. 4	62. 5. 7	71. 4. 2	132.13. 1	142.16.10	127.19. 9	
August .	„ 64. 8. 5	59.16.—	61.10. 1	73.10. 1	142. 1. 4	140.19. 1	116. 1. 7	
September	„ 64.19.11	58.10. 9	61.12. 8	73.15. 7	146. 7. 2	132.13. 9	114.10. 6	
October .	„ 65.17.11	57. 7. 4	62.11. 9	78.17.10	144.10. 2	130.14. 3	113. 1. 5	
November	„ 64.18.10	58.11.11	62.11. 9	82. 8. 6	129.16.—	127. 3 8	114.—. 7	
December	„ 61.15. 6	58.—. 1	62.10.—	82.10. 7	113.—. 7	119.14. 9	108.17.10	
Average for the year	£ 63. 7. 1	59. 9. 1	61. 8.—	71. 4. 1	122. 8. 7	133.11. 6	118.12. 8	

NICKEL.

The production has considerably risen, and amounts to 8,600 tons. In Canada new works are in course of erection so that a further increase in production is to be expected.

In consequence of the unfavourable conditions which have prevailed during the last two years in the iron and steel industries the demand for nickel has appreciably slackened, and the price has fluctuated between Mk. 2.90 and 3.20 per Kilo.

With the object of consolidating the American nickel interests the International Nickel Company was established in New Jersey at the beginning of April 1902. It is incorporated with a capital of $ 24,000,000, half in 6 % Preference shares and half in Ordinary shares, together with $ 10,000,000 of 5 % Bonds, and has issued, to begin with $ 9,000,000 Preference and $ 9,000,000 Ordinary shares to acquire the control of the following Companies:

The Canadian Copper Company
The Orford Copper Company
The Anglo-American Iron Company
The Vermillion Manufacturing Company
The American Nickel Works of Joseph Wharton
The Nickel Corporation Limited, and
La Société Minière Caledonienne.

The Board of the Company comprises also some gentlemen who are closely connected with the United States Steel Corporation.

ALUMINIUM.

The producers have refused to give information about the total of their production for the year 1901; we have therefore in our table XXIII inserted as an estimate the same figures as in the previous year.

The price has undergone no change.

At the end of the year under review a convention of the producers was brought about with the object of bringing the production more into harmony with the consumption than had been the case previously, so as to be able to maintain the present level of prices.

With regard to **Quicksilver** and **Silver** we beg reference to our tables on pages 21, 22, 26, 27, 62, and 63.

The figures marked with an asterisk (*) in our calculations are based wholly or partly on estimates.

* * *

LEAD.

I. General Summary.

As per tables II, III and IV.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of pig-lead	629 000	628 000	622 000	638 000	677 000	702 000	798 000	784 000	833 000	838 000
Total of the available quantities in the different countries, as per table III	631 000	636 000	630 000	657 000	676 000	710 000	784 000	778 000	837 000	833 000
Yearly average price . . . . £	$10^{3}/_{4}$	$9^{7}/_{8}$	$9^{1}/_{2}$	$10^{5}/_{8}$	$11^{1}/_{4}$	$12^{7}/_{16}$	$13^{1}/_{16}$	$15^{1}/_{16}$	$17^{3}/_{16}$	$12^{11}/_{16}$
Value of the production in units of 1000 Marks	133 000	122 000	116 000	133 000	150 000	172 000	205 000	233 000	282 000	210 000

II. Production of Pig-lead.

Metric Tons.

	Countries	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
1	Germany	95 000	97 000	100 000	101 000	95 000	98 000	95 000	101 000	111 000	113 800	118 900	132 700	129 200	121 500	123 100
2	Spain	*119 000	129 200	136 900	140 300	145 700	153 300	157 100	159 800	154 500	168 600	171 700	180 500	162 900	154 500	149 500
3	Great Britain. . .	* 50 000	* 50 000	47 600	48 500	48 200	42 800	36 300	39 700	45 500	57 200	40 000	50 000	42 000	35 500	40 000
4	Austria	7 800	8 000	8 200	8 300	7 600	7 300	7 200	7 600	8 100	9 800	9 700	10 300	9 700	10 700	12 000
5	Hungary	1 800	2 000	2 300	1 200	2 100	2 300	2 500	2 100	2 300	1 900	2 500	2 300	2 200	2 000	
6	Italy	* 19 000	17 000	18 200	17 700	18 500	22 000	19 900	19 600	20 400	20 800	22 400	24 500	20 500	23 800	26 200
7	Belgium	10 000	11 000	9 400	9 600	12 700	10 100	12 000	14 100	15 600	17 200	17 000	19 300	15 700	16 400	19 500
8	France	* 5 000	6 500	5 400	4 600	6 700	8 800	8 100	8 800	7 600	8 200	9 900	10 900	16 900	17 000	19 000
9	Greece	12 500	14 500	13 500	14 200	13 300	14 400	12 800	12 700	16 800	14 700	16 000	19 200	18 400	16 800	17 700
10	Other European Countries . . .	* 2 000	* 2 000	* 2 000	* 2 000	* 2 000	* 2 500	* 3 000	* 3 500	* 3 600	* 3 500	*3 600	* 3 800	* 4 300	* 4 500	* 4 300
11	United States of America. . . .	132 100	138 200	143 200	129 300	160 800	166 200	151 700	146 400	142 300	158 500	179 400	207 300	197 000	251 000	241 000
12	Mexico	18 100	30 100	27 500	22 300	30 200	47 500	64 000	57 000	68 000	68 300	69 900	70 600	86 500	90 500	89 300
13	Canada[1])	—	—	—	—	—	—	—	—	4 300	9 000	17 000	15 000	8 100	19 200	23 700
14	Australia[2]) . . .	* 10 000	* 19 000	* 35 000	40 500	56 000	54 000	58 000	50 000	38 000	30 000	22 000	50 000	68 000	67 000	72 000
15	South America and to East-India[3]) .	—	—	—	—	—	—	—	—	—	600	2 000	1 300	2 200	3 000	*300
	Total	482 300	524 500	549 200	539 500	598 800	629 200	627 600	621 800	638 000	677 100	702 000	797 700	783 600	833 400	837 600

[1]) These figures comprise the lead obtained from Canadian ores in the United States, as well as the Canadian exports of argentiferous lead which were not important till 1900, in which year, however, the amount rose to about 10,000 tons; for 1901 we could not obtain any figures.

[2]) Such portion of the production as was not exported to Europe and America has not been taken into account here. The total production of Australia amounted in 1901 to 90,000. 1900 to 87,100: 1899 87,600 and in 1898 to about 67.000 metric tons. The exports of lead from Australia to Eastern Asia amounted to about 9100 in 1901 and 12,500 metric tons in 1900. We have no figures at our disporal for the previous years.

[3]) Imports from Chili, Peru, East India and Africa to Europe.

III. Consumption of Pig-lead.

As per tables 1, 5, 8, 12, 16, 19, 20, 21, 22, 24, 25, 28.

Metric Tons.

Countries	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
1. Germany	89 595	94 571	100 678	111 652	121 980	129 898	155 372	160 369	172 940	155 164
2. Great Britain.	172 839	178 415	161 847	170 130	196 200	182 334	212 163	205 444	202 855	230 193
3. France	73 545	77 065	86 160	64 657	77 776	86 739	91 423	93 286	96 260	86 565
4. Austria-Hungary . . .	16 600	15 604	18 442	19 276	18 814	18 038	22 038	20 605	20 286	22 687
5. Italy	22 787	19 985	19 947	19 146	20 533	20 796	20 104	22 036	22 150	24 621
6. Switzerland	1 922	1 941	1 412	1 837	2 485	2 640	3 441	2 700	3 170	3 470
7. Belgium	13 779	23 088	22 478	17 094	18 800	20 400	20 700	20 700	23 000	20 900
8. Netherlands	*5 000	*5 000	*5 000	*5 000	*5 000	*5 000	*5 000	*5 000	*5 000	*5 000
9. Russia	22 000	24 500	26 700	21 400	20 300	24 750	22 650	23 300	20 300	22 800
10. Other European Countries	2 700	1 700	1 500	1 600	2 100	2 300	3 700	2 100	2 000	1 600
11. United States of America	191 728	179 163	173 413	214 459	179 801	207 617	218 628	216 406	264 223	252 951
12. All other Countries . .	18 900	14 700	12 300	10 600	12 100	9 400	8 500	6 500	4 500	7 000
Total . . .	631 395	635 732	629 877	656 851	675 889	709 912	783 719	778 446	836 684	832 951

IV. Prices of English Lead.

Year					Year					Year				
1771	£	13.	7.	6	1818	£	27.	8.	9	1869	£	19.	1.	6
1772	„	12.	7.	6	1820	„	21.	10.	—	1870	„	18.	13.	—
1773	„	12.	2.	6	1821	„	22.	10.	—	1871	„	18.	2.	6
1775	„	13	1.	3	1823	„	22.	5.	—	1872	„	20.	3.	—
1776	„	12	17.	6	1824	„	21.	—.	—	1873	„	23	2.	6
1777	„	12.	17.	6	1825	„	25.	5.	—	1874	„	22.	—.	—
1778	„	12.	7.	6	1826	„	19	—.	—	1875	„	22.	10.	—
1779	„	11.	10.	—	1828	„	15.	15.	—	1876	„	21.	13.	—
1780	„	11.	2.	6	1830	„	12.	2.	6	1877	„	20.	11.	3
1781	„	14.	15.	—	1832	„	11.	12.	6	1878	„	16.	14	—
1782	„	16.	17.	6	1835	„	17.	—.	—	1879	„	14.	5.	—
1783	„	16.	2	6	1836	„	25	2.	6	1880	„	16.	6.	3
1784	„	16.	2.	6	1837	„	21.	15.	—	1881	„	14.	19	3
1785	„	15.	2.	6	1840	„	18.	2.	6	1882	„	14.	7.	4
1788	„	21.	10	—	1841	„	20.	2.	6	1883	„	12.	18	—
1790	„	16.	2.	6	1844	„	16.	18.	9	1884	„	11.	2.	6
1792	„	19.	8.	9	1846	„	18.	18.	9	1885	„	11.	9.	11
1793	„	19.	2.	6	1849	„	15.	18.	9	1886	„	13.	4.	5
1794	„	14	10.	—	1850	„	17.	10.	—	1887	„	12.	17.	1
1796	„	18.	8.	9	1851	„	17	2.	6	1888	„	13.	18.	3
1798	„	15.	10.	—	1852	„	17.	17.	6	1889	„	13.	—.	11
1799	„	17.	17.	6	1853	„	23.	7.	6	1890	„	13.	7.	10
1800	„	21.	—.	—	1854	„	23.	13	9	1891	„	12.	8.	8
1801	„	24.	—.	—	1855	„	23.	1	3	1892	„	10.	14.	10
1803	„	27	15.	—	1856	„	24.	—.	—	1893	„	9.	18.	6
1804	„	28.	—.	—	1857	„	23.	17	6	1894	„	9.	11.	6
1805	„	27.	12.	6	1858	„	21.	10	—	1895	„	10.	12.	5
1806	„	35.	15.	—	1860	„	22.	5.	—	1896	„	11.	5.	11
1807	„	30	2.	6	1862	„	20.	17.	6	1897	„	12.	8.	4
1808	„	30.	—.	—	1863	„	20.	17	6	1898	„	13.	1.	10
1809	„	31.	3.	9	1864	„	21.	15.	—	1899	„	15.	1.	5
1812	„	23.	2.	6	1865	„	20.	2.	6	1900	„	17.	3.	7
1813	„	25.	15.	—	1866	„	20.	12.	6	1901	„	12.	14	1
1814	„	26.	15.	—	1867	„	19.	11.	—					
1816	„	16.	5.	—	1868	„	19.	6.	-					

COPPER.

V. General Summary.

As per tables VI, VII, VIII, IX and X.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Pig-copper as per our calculations (table VII) . .	307 000	305 000	328 000	351 000	393 000	419 000	430 000	478 000	485 000	500 000
Production of raw Copper on basis of "Production of the Copper Mines of the World", according to Messrs Henry R. Merton & Co. Ltd. (see tables VI and VII) .	315 000	308 000	330 000	340 000	379 000	406 000	437 000	480 000	494 000	520 000
Total of the available quantities for the consumption in the different countries (tables VIII) .	313 000	311 000	324 000	364 000	400 000	428 000	444 000	481 000	488 000	516 000
Yearly average price in London £	$45\frac{5}{8}$	$43\frac{3}{4}$	$40\frac{3}{8}$	43	$46\frac{3}{4}$	$49\frac{1}{8}$	$51\frac{7}{8}$	$73\frac{5}{8}$	$73\frac{5}{8}$	67
Value of the production in units of 1000 Marks	276 000	263 000	261 000	297 000	362 000	406 000	440 000	693 000	703 000	660 000
Position of Public Stocks in England and France on January 1st according to Messrs Henry R. Merton & Co.	53 486	51 556	43 428	51 575	43 604	31 776	27 895	22 702	17 797	24 825
On January 1st 1902	15 953									

VI. Summary of the Production

Compiled by HENRY

In English Tons

	1884	1885	1886	1887	1888	1889	1890	1891	1892
Algeria	260	250	110	150	50	160	120	120	—
Argentine	159	233	180	170	150	190	150	210	200
Australia	14 100	11 400	9 700	7 700	7 450	8 300	7 500	7 500	6 500
Austria	670	585	733	883	1 010	1 225	1 210	965	1 100
Bolivia — Coro-coro	*1 500	*1 500	1 100	*1 300	1 450	*1 200	1 900	2 150	2 860
Canada	1 000	1 200	1 560	1 450	*2 250	2 500	3 050	3 500	*3 500
Chile	41 648	38 500	35 025	29 150	31 240	24 250	26 120	19 875	22 565
Cape — Cape Co	5 000	5 000	5 390	5 950	5 800	5 600	5 000	5 000	5 500
Namaqua	—	450	625	1 300	1 700	*2 100	1 450	900	450
England	3 350	2 773	1 471	389	1 456	905	935	720	495
Germany — Mansfeld	12 582	12 450	12 595	13 025	13 380	15 506	15 800	14 250	15 360
Other German Mines	*2 200	*2 800	*1 870	*1 850	*1 850	*1 850	1 825	1 900	1 935
Hungary incl. Bosnia & Servia	600	*600	366	581	858	300	300	285	285
Italy	*2 000	*2 000	2 100	2 500	3 500	*3 500	2 200	2 200	2 500
Japan	*10 000	*10 000	*12 000	*11 000	11 600	15 000	15 000	17 000	18 000
Mexico — Boleo	—	—	—	1 950	2 566	3 280	3 450	4 175	6 415
Other Mexican Mines	291	375	250	100	200	500	875	1 025	900
New Foundland — Betts Cove	668	778	1 125	1 180	1 300	1 115	735	540	450
Tilt Cove	—	—	—	125	750	1 500	1 000	1 500	1 940
Norway — Vigsnaes	2 390	2 180	1 920	1 150	1 020	1 007	925	615	785
Other Norwegian Mines	392	380	330	275	300	435	465	632	625
Peru	362	229	75	50	250	275	150	280	290
Russia	4 700	5 100	4 875	5 000	4 700	4 070	4 800	4 800	4 900
Sweden	662	775	520	905	1 036	830	830	655	735
Spain and Portugal	46 415	47 873	49 653	53 706	56 450	54 270	51 700	53 915	56 462
Rio Tinto	21 564	23 484	24 700	28 500	28 500	29 500	30 000	32 000	31 500
Tharsis	*10 800	*11 500	*11 000	*11 000	*11 000	*11 000	*10 300	*10 500	*11 500
Mason & Barry	*7 500	*7 000	*7 000	*7 000	*7 000	*5 250	*5 600	*4 150	*4 400
Sevilla	2 000	1 800	2 135	2 300	1 700	1 850	810	875	1 070
Tinto & Santa Rosa	—	—	—	—	—	—	—	—	—
Other Works	4 551	4 089	4 818	4 906	8 250	7 170	4 990	6 390	7 992
United States of America	64 700	74 050	69 805	79 109	101 710	105 774	116 325	128 179	152620
Calumet & Hecla	18 050	21 075	22 550	20 550	22 450	21 700	26 250	29 000	32 250
Other Lake Mines	12 875	11 135	13 040	12 780	16 200	17 069	18 200	22 505	22 210
Montana Mines	19 255	30 270	25 720	35 225	43 703	46 518	49 560	50 536	72 000
Arizona	11 935	10 135	6 985	8 085	14 062	14 419	15 945	17 723	17 160
Other States	2 585	1 435	1 510	2 519	5 295	6 068	6 370	8 415	9 000
Turkey	—	—	—	—	—	—	—	—	—
Venezuela — Aroa	4 600	4 111	3 708	2 900	4 000	5 563	5 640	6 500	3 100
Total	220 249	225 592	217 086	223 798	258 026	261 205	269 455	279 391	310 472

of the Copper-mines of the world.

R. MERTON & Co. L^td, LONDON.

of **1016** Kilos.

	1893	1894	1895	1896	1897	1898	1899	1900	1901
Algeria	—	—	35	—	—	50	—	—	—
Argentine	160	230	150	100	200	125	65	75	780
Australia	7 500	9 000	10 000	11 000	17 000	18 000	20 750	23 000	30 875
Austria	1 215	1 810	1 110	1 075	1 210	1 110	915	865	1 015
Bolivia — Coro-coro	2 500	2 800	2 250	2 000	2 200	2 050	2 500	2 100	*2 000
Canada	*5 000	*5 000	*4 000	4 000	5 905	8 040	6 730	8 500	18 800
Chili	21 850	21 340	22 075	23 500	21 900	24 850	25 000	25 700	30 000
Cape — Cape Co	5 200	5 000	5 350	5 470	5 290	4 660	4 140	4 420	4 000
Namaqua	890	1 500	1 780	1 980	2 150	2 400	2 850	2 800	2 400
England	425	*445	580	555	520	640	635	*650	*600
Germany — Mansfeld	14 150	14 990	14 860	18 265	17 960	18 045	20 785	18 890	18 780
Other German Mines	2 000	2 210	1 695	1 800	2 185	2 040	2 675	2 020	2 940
Hungary incl. Bosnia & Servia	210	310	200	210	445	430	590	490	320
Italy	2 500	2 600	*2 500	3 400	3 480	2 965	2 965	2 955	*3 000
Japan	18 000	20 050	18 430	21 000	28 000	25 175	28 310	27 840	27 475
Mexico — Boleo	7 980	10 370	10 450	9 940	10 170	9 435	10 835	11 050	10 795
Other Mexican Mines	500	1 400	1 170	1 210	*3 200	*7 000	*9 000	*11 000	*13 000
New Foundland — Betts Cove	240	100	—	—	—	300	1 000	—	—
Tilt Cove	1 800	1 800	1 800	1 800	1 800	1 800	1 700	1 900	2 000
Norway — Vigsnaes	1 070	985	960	—	—	—	—	—	—
Other Norwegian Mines	790	905	1 725	2 500	3 450	3 615	3 610	3 985	3 375
Peru	460	440	450	740	1 000	3 040	5 165	8 220	9 520
Russia	5 000	5 000	*5 280	5 100	6 025	*6 260	7 210	8 000	*8 000
Sweden	585	350	515	500	545	480	520	450	450
Spain and Portugal	53 995	54 175	54 950	53 325	53 060	52 875	52 168	52 872	53 621
Rio Tinto	31 100	33 000	33 500	33 000	33 900	33 705	34 370	35 732	35 348
Tharsis	11 000	11 000	12 000	12 000	*11 000	*11 150	9 448	7 965	7 427
Mason & Barry	*4 400	*4 200	*4 100	*3 900	*4 300	3 600	3 600	3 460	3 729
Sevilla	1 270	1 170	1 050	1 025	810	800	1 200	1 460	1 292
Tinto & Santa Rosa	—	—	—	—	500	815	1 000	1 580	1 640
Other Works	6 225	4 805	*4 300	3 400	2 550	2 805	2 550	2 675	4 185
United States of America	147 210	159 695	172 300	203 893	216 060	234 271	262 206	268 787	267 410
Calumet & Hecla	27 675	27 675	34 454	40 383	40 352	38 583	40 005	*40 000	*39 000
Other Lake Mines	22 835	23 450	23 582	24 286	24 301	31 879	29 358	24 396	27 295
Montana Mines	69 300	79 730	82 589	93 276	103 528	97 400	106 650	114 144	105 357
Arizona	19 600	19 690	21 429	31 548	35 979	48 359	54 793	49 447	56 250
Other States	7 800	9 150	10 246	14 400	11 900	18 050	31 400	40 800	39 508
Turkey	—	—	—	—	975	470	920	520	980
Venezuèla — Aroa	2 850	2 500	—	—	—	—	—	—	—
Total	308 590	324 505	334 565	373 363	399 730	429 626	472 244	486 039	512 131

VII. Production of Raw Copper

computed for each country from

1. Raw copper smelted from foreign and native ores and intermediate products.
2. Supplies of raw Copper to be refined.
3. Supplies of refined raw Copper.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
1. Germany	24781	24011	25722	25777	29319	29408	30695	34634	30929	31376
2. Great Britain . . .	100573	90674	69611	78246	76000	75000	69500	79100	80000	80000
3. France	6400	6600	6400	8245	6544	7400	7834	6600	6400	*6500
4. Austria-Hungary .	1295	1396	1726	1276	1366	1426	1343	1479	1200	1350
5. Italy	2564	2371	2670	2375	2842	2980	3230	3032	2797	*3000
6. Russia	4978	5100	5409	5854	5832	6941	7291	7533	8100	*8100
7. Other European Countries (Sweden & Norway)	1400	1600	1600	1500	1700	1700	1500	2300	2500	3200
8. Imports of raw Copper into Europe:										
a) from the United States of America	14400	63300	74200	55100	117700	126000	142700	112900	153500	93300
b) from Chile . .	16800	15500	18300	19600	18900	18000	18000	17100	19800	23400
c) „ Japan . .	10600	6000	8500	11500	9000	11300	12400	21000	19300	20900
d) „ Australia .	3980	4621	5596	8100	8232	10400	14700	16800	17400	19900
e) „ other Countries oversea (vide note I).	3000	6100	9200	10900	11400	15500	7300	9300	9300	12200
Total quantity of raw Copper *ex* each year's production available for Europe . . .	190771	227273	228934	228473	288835	306055	316493	311778	351226	303226
in round figures . .	**190800**	**227300**	**228900**	**228500**	**288800**	**306000**	**316500**	**311800**	**351200**	**303200**
9. Production of the United States, after deduction of the exports already included in the above figures (vide note II)	108200	65100	87300	115000	91100	98800	100200	157200	123500	188300
10. Japanese & Australian Copper, consumed in Eastern Asia . . .	7700	12300	11800	8000	13300	14100	13700	9000	10100	8000
Total .	**306700**	**304700**	**328000**	**351500**	**393200**	**418900**	**430400**	**478000**	**484800**	**499500**
Total Mine-output according to Henry R. Merton & Co. L^{td}	**315439**	**308387**	**329698**	**339919**	**379337**	**406126**	**436500**	**479800**	**493815**	**520325**

Note I. Raw Copper imported chiefly from Mexico, East India and British North America.

Note II.	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of the U. S. A.	151 163	152 272	164 095	178 341	219 328	230 185	250 000	273 000	283 000	297 900
Exports to Europe (Copper in ores, mattes and as raw Copper)	42 937	87 136	76 842	63 396	128 286	131 387	149 828	115 788	159 524	109 628
American production available for America .	108 226	65 136	87 253	114 945	91 042	98 798	100 172	157 212	123 476	188 272
in round figures . .	108 200	65 100	87 300	115 000	91 100	98 800	100 200	157 200	123 500	188 300

VIII. Consumption of Raw Copper.

As per tables 29, 33, 37, 41, 45, 48, 49, 50.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
1. Germany . .	50 681	54 949	56 145	63 813	79 438	89 798	97 014	97 664	108 927	84 905
2. Great Britain .	77 416	98 896	91 033	91 551	116 674	109 531	104 373	86 528	108 782	105 243
3. France .	32 706	33 464	32 603	38 174	43 224	51 869	49 552	49 233	52 626	42 600
4. Austria-Hungary . . .	9 597	12 784	14 854	12 872	14 804	17 193	18 612	17 130	19 699	18 358
5. Italy . .	4 535	5 257	6 344	6 641	6 968	7 790	7 796	7 683	8 345	8 882
6. Belgium . .	*4 000	*4 000	*5 000	*5 000	*5 500	*6 200	*5 800	*5 500	*6 250	*6 500
7. Netherlands .	*2 400	*2 400	*2 400	*2 400	*2 400	*2 400	*2 400	*2 400	*2 400	*2 400
8. Russia . . .	11 500	13 900	12 100	14 000	18 300	19 500	17 500	13 800	14 200	14 100
9. Other European countries (vide note I) .	1 700	2 000	2 100	1 800	2 300	2 000	1 700	2 000	2 000	2 600
10. Export of raw Copper from Europe:										
a) to non-European countr. (vide note II)	1 200	3 000	800	700	1 000	800	1 200	900	800	900
b) to countries not particularly specif^{d} in the official Statistics . .	800	800	700	700	500	400	350	300	300	*300
Copper available for own consumption or export from Europe	196 535	231 450	224 079	237 651	291 108	307 481	306 297	283 138	324 329	286 788
in round figures	**197 000**	**232 000**	**224 000**	**238 000**	**291 000**	**307 000**	**306 000**	**283 000**	**324 000**	**287 000**
11. Consumption in the U. S. without ref^{ce} to the stocks	108 943	67 292	88 569	118 835	95 966	105 998	123 925	188 887	153 900	221 000
12. Consumption of Japanese & Australian Copper in Eastern Asia	7 700	12 300	11 800	8 000	13 300	14 100	13 700	9 000	10 100	8 000
Total consumpt^{n}	313 178	311 042	324 448	364 486	400 374	427 579	443 922	481 025	488 329	515 788
in round figures	**313 200**	**311 100**	**324 500**	**364 500**	**400 400**	**427 600**	**443 900**	**481 000**	**488 300**	**515 800**

Note I. Denmark, Sweden, Norway, Switzerland. Spain and the Balkan Principalities.

Note II. Chiefly Eastern-Asiatic countries, also South America.

IX. Position of Public Stocks of Copper

on the 1st January of the last 15 years.

As published by Henry R. Merton & Co. Ltd, London.

Metric Tons.

On the 1st January of the year	Public Stocks in France and England exclusive shipments afloat	On the 1st January of the year	Public Stocks in France and England exclusive shipments afloat
1888	35 001	1896	43 604
1889	96 194	1897	31 776
1890	94 942	1898	27 895
1891	62 449	1899	22 702
1892	53 486	1900	17 797
1893	51 556	1901	24 825
1894	43 428	1902	15 953
1895	51 575		

X. Average-Prices of Copper.

	Chili bars i. e. good merchantable bars £ pr. ton engl. London	Lake Copper at New York	
		cents	£ pr. ton engl.
1879	58. 3. 9	$17^{1}/_{8}$	79
1880	62. 14. 7	$20^{1}/_{8}$	93
1881	61. 16. 9	$18^{1}/_{8}$	$83^{3}/_{4}$
1882	66. 10. 5	$18^{1}/_{2}$	$85^{1}/_{2}$
1883	62. 17. 11	$15^{7}/_{8}$	$73^{1}/_{2}$
1884	53. 17. 6	$13^{7}/_{8}$	64
1885	43. 11. —	$11^{1}/_{8}$	$51^{1}/_{2}$
1886	40. 1. 8	11	51
1887	46. 0. 5	$11^{1}/_{4}$	52
1888	81. 11. 3	$16^{2}/_{3}$	77
1889	49. 14. 8	$13^{3}/_{4}$	$63^{1}/_{2}$
1890	54. 5. 3	$15^{3}/_{4}$	$72^{3}/_{4}$
1891	51. 9. 4	$12^{7}/_{8}$	$59^{1}/_{2}$
1892	45. 13. 2	$11^{1}/_{2}$	53
1893	43. 15. 6	$10^{3}/_{4}$	$49^{1}/_{2}$
1894	40. 7. 4	$9^{1}/_{2}$	$43^{3}/_{4}$
1895	42. 19. 7	$10^{3}/_{4}$	$49^{1}/_{2}$
1896	46. 18. 1	$10^{7}/_{8}$	$50^{7}/_{8}$
1897	49. 2. 7	$11^{1}/_{8}$	$52^{1}/_{4}$
1898	51. 16. 7	12	$55^{3}/_{8}$
1899	73. 13. 9	17.75	82
1900	73. 12. 6	16.70	77
1901	66. 19. 8	$16.77^{1}/_{2}$	$77^{1}/_{8}$

SPELTER.

XI. General Summary.

As per tables XII, XIII and XIV.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Spelter	373 000	378 000	381 000	417 000	424 000	443 000	469 000	489 000	478 000	507 000
Total of the quantities available for consumption in the different countries as per table XIII	376 000	378 000	384 000	415 000	426 000	442 000	476 000	496 000	470 000	499 000
Yearly average-price . . . . £	$20\frac{3}{4}$	$17\frac{3}{8}$	$15\frac{1}{2}$	$14\frac{5}{8}$	$16\frac{5}{8}$	$17\frac{1}{2}$	$20\frac{1}{2}$	$24\frac{7}{8}$	$20\frac{1}{4}$	17.—
Value of the Production in Units of 1000 Marks	152 000	129 000	116 000	120 000	139 000	153 000	189 000	240 000	191 000	170 000

XII. Production of Spelter.

Compiled by Henry R. Merton & Co. L^td^, London.

English Tons.

	1884	1885	1886	1887	1888	1889	1890	1891	1892
Western Germany, Belgium & Holland	129 240	129 754	129 020	130 995	133 245	134 648	137 630	139 695	143 305
Silesia	76 116	79 623	81 630	81 375	83 375	85 653	87 475	87 080	87 760
Great Britain . . .	29 759	24 299	21 230	19 839	26 783	30 806	29 145	29 410	30 310
France & Spain[1]) .	15 341	14 847	15 305	16 028	16 140	16 785	18 240	18 360	18 662
Austria	6 170	5 610	5 000	5 338	4 977	6 330	7 135	6 440	5 020
Russia	4 164	5 019	4 145	3 580	3 785	3 026	3 620	3 760	4 270
	260 790	259 152	256 330	257 155	268 305	277 248	283 245	284 745	289 327
United States . .	34 415	36 321	38 072	45 530	50 000	52 919	59 851	71 756	77 701
Total in English Tons	295 205	295 473	294 402	302 685	318 305	330 167	343 096	356 501	367 028
Total in Metric Tons	**299 420**	**300 200**	**298 604**	**307 020**	**323 397**	**335 450**	**348 585**	**362 204**	**372 900**

	1893	1894	1895	1896	1897	1898	1899	1900	1901
Western Germany, Belgium & Holland	149 750	152 420	172 135	179 730	184 455	188 815	189 955	186 320	199 285
Silesia	90 310	91 145	94 015	95 875	94 045	97 670	98 590	100 705	106 385
Great Britain . .	28 375	32 065	29 495	24 880	23 550	27 940	31 715	29 830	29 190
France & Spain[1]) .	20 585	21 245	22 895	28 450	32 120	32 135	32 955	30 620	27 265
Austria & (from 1900) Italy . .	7 560	8 580	8 355	9 255	8 185	7 115	7 190	6 975	7 700
Russia	4 530	5 015	4 960	6 165	5 760	5 575	6 225	5 875	5 935
	301 110	310 470	331 855	344 355	348 115	359 250	366 630	360 325	375 760
United States . .	71 030	64 409	78 206	73 105	88 207	102 395	114 855	110 465	122 830
Total in English Tons	372 140	374 879	410 061	417 460	436 322	461 645	481 485	470 790	498 590
Total in Metric Tons	**378 093**	**380 877**	**416 621**	**424 141**	**443 302**	**469 031**	**489 189**	**478 323**	**506 568**

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[1]) The production of the works in Viviez (France), which belong to the Vieille Montagne is not included here, but is taken into account under "Western Germany, Belgium and Holland".

XIII. Consumption of Spelter.

As per tables 51, 55, 58, 62, 66, 68, 70, 71, 72, 74, 75.

Metric Tons.

Countries	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
1. Germany	99 672	93 575	99 766	110 895	112 831	120 064	128 167	130 295	125 806	133 151
2. Great Britain . . .	73 547	75 042	75 504	83 828	92 651	86 587	98 647	96 770	92 726	90 420
3. France	48 557	52 246	52 927	49 267	62 563	63 565	61 256	56 996	62 291	55 590
4. Austria Hungary . .	18 519	22 046	23 582	25 140	25 686	24 143	23 516	20 916	23 782	23 212
5. Italy	1 575	1 682	2 230	2 374	2 563	2 969	2 657	3 271	3 328	3 797
6. Belgium	34 783	34 732	40 567	38 308	38 920	38 650	39 785	46 200	39 000	38 000
7. Netherlands . . .	*3 600	*3 600	*3 600	*3 600	*3 600	*3 600	*3 600	*3 600	*3 700	*3 700
8. Spain	3 163	3 500	3 020	4 505	2 698	4 158	1 575	3 627	3 704	3 240
9. Russia	9 438	9 600	10 800	11 670	11 913	13 653	14 665	15 624	14 668	17 630
10. United States . . .	73 465	69 058	64 028	78 424	65 427	77 778	95 711	111 896	92 743	122 083
11. Other Countries . .	*9 500	*13 000	*8 000	*7 000	*7 600	*7 000	*6 500	*7 000	*8 000	*8 000
Total . .	375 819	378 081	384 024	415 011	426 452	442 167	476 079	496 195	469 748	498 823

Production of Spelter

According to compilations of the Société Anonyme des

In Metri

Producers	1853	1854	1855	1856	1857	1858	1859	1860	1861	1862	1863	1864	1865
Silesia	28168	27680	27995	28095	30642	37340	37211	40354	40810	41048	39236	37578	35430
Vieille Montagne	16291	16286	18360	19312	20840	25542	24998	28925	25691	23875	27553	28115	30692
Corphalie	2023	2309	2535	2510	2604	2635	3058	2788	3695	3134	3220	3641	4412
Nouvelle Montagne	2264	2113	2232	2594	2481	2838	2810	2774	2527	2813	2455	2728	3749
Aktien-Gesellschaft zu Stolberg und in Westfalen	1731	1970	2076	2453	3068	2968	2566	3402	4631	5661	5617	6347	5896
Eschweiler (Rhein-Nassau)	1311	1736	2250	1910	3030	3095	2588	3211	3505	3307	2964	2805	2900
Comp. Royale Asturienne	—	—	—	—	—	1852	1546	1777	2054	1883	1340	1172	1325
Escombrera-Bleyberg	—	—	—	534	664	997	596	1031	802	707	853	1113	1077
de Laminne	645	743	642	1181	1858	1716	1327	1784	1841	1883	1859	2655	3247
Colladios [1]	—	328	334	225	474	285	468	402	431	492	196	—	—
Grande Montagne [2]	872	—	—	—	—	—	—	—	—	—	—	—	—
Gladbach (Berzelius)	9	1012	1656	776	227	469	30	—	—	—	—	—	3500
Société Badoise	455	502	322	240	715	1010	330	—	—	—	—	—	—
Iserlohn	160	380	977	1133	1197	1661	1913	2335	2366	2389	3889	4400	4351
Soc. Cuivre du Rhin (Linz)	221	260	257	263	160	47	15	4	—	—	—	—	—
Dégée Gernaert & Cie.	—	—	—	—	—	—	—	365	423	465	900	600	—
Ougrée	—	—	—	—	—	—	—	—	—	—	—	—	1000
Polonia	2500	2000	2000	2000	2000	2135	1500	1500	1500	1500	1500	1500	3000
Austria	1500	1000	1000	1000	1200	1300	1500	1500	1500	1500	1500	1346	1000
England	2000	2500	3500	4000	4000	4270	5729	6104	6000	5000	4568	5098	6523
France	—	—	—	—	—	—	—	124	1131	1124	1175	1443	500
G. Dumont & frères	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	60150	60819	66136	68226	75160	90160	88185	98380	98907	96781	98825	100541	108502

[1] Transferred to the Vieille Montagne in 1855 and joined to their works at Valentin-Cocq (Belgium). Beginning with 1864 the production is no longer stated separately, but it is comprised in the figure of the Vieille Montagne.

[2] Acquired by the Vieille Montagne in 1854. being their works at Flône.

in Europe in 1853—1879.

Mines et Fonderies de Zinc de la Vieille Montagne.

Tons

Producers	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879
Silesia	34865	36833	37632	37643	36518	31970	32500	36725	41343	43123	49377	57300	59636	63476
Vieille Montagne	31722	36260	40219	43036	42112	41129	39663	39439	40269	41618	38518	43238	49282	43750
Corphalie	5258	5209	5980	6195	5112	4462	4405	4559	5051	5701	5600	6634	7200	8155
Nouvelle Montagne	2729	2721	2557	2447	2642	2705	2652	2546	3412	4428	4758	5048	5593	4990
Aktien-Gesellschaft zu Stolberg und in Westfalen	6366	6626	7712	8037	6907	6400	7600	7640	9220	11390	13645	11770	12400	11571
Eschweiler (Rhein-Nassau)	3137	3286	3790	3717	3803	4057	3886	4263	4854	5353	5296	5486	5250	5133
Comp. Royale Asturienne	1655	2064	2509	2751	3048	3342	4400	5560	6627	8311	11178	10300	10826	11467
Escombrera-Bleyberg	1080	897	770	868	680	650	938	763	932	1210	1720	1600	1438	2900
de Laminne	3662	4404	4644	5065	4699	4226	3842	3875	4684	4500	5200	5677	5736	5367
Colladios	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grande Montagne	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Gladbach (Berzelius)	3500	3500	3500	3500	3438	2791	3362	3707	4582	4153	4200	4284	4267	4468
Société Badoise	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iserlohn	4638	4500	4417	4703	3858	4220	4105	3963	4636	4500	4458	4000	4968	4912
Soc. Cuivre du Rhin (Linz)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dégée Gernaert & Cie.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ougrée	1000	1000	1000	257	1343	1498	1651	1814	2489	2997	2740	2550	2300	2433
Polonia	3000	3000	3000	3000	3000	2729	3082	3375	3000	3000	3000	3000	1800	2000
Austria	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	900	2000
England	8000	10000	12000	14000	16000	16723	18255	16499	12871	10994	8000	14000	16000	18000
France	500	500	500	500	500	500	—	500	800	1500	1669	1468	2095	2000
G. Dumont & frères	—	—	—	—	—	—	—	—	—	—	1200	2000	2100	2500
Total	112112	121800	131230	136719	134660	128402	131341	136228	145770	153778	161559	179350	191791	195122

XIV. Average-Prices of Spelter (ordinary brands) in London.

Year	January	April	July	October	Yearly Average
	£ s d	£ s d	£ s d	£ s d	£ s d
1858	25. 2. 6	26. 7. 6	24. —. —	23. —. —	—.
1859	23. —. —	21. 2. 6	19. —. —	20. 17. 6	—.
1860	21. 10. —	21. —. —	20. 5. —	19. 10. —	—.
1861	19. —. —	18. 5. —	16. —. —	19. —. —	—.
1862	18. —. —	18. 10. —	18. —. —	18. 10. —	—.
1863	18. 2. 6	17. 15. —	18. —. —	18. 10. —	—.
1864	21. 5. —	21. 5. —	24. 15. —	22. 10. —	—.
1865	18. —. —	19. 15. —	22. 10. —	21. —. —	—.
1866	22. 15. —	24. 10. —	22. —. —	20. 10. —	—.
1867	22. —. —	21. 10. —	20. 12. 6	21. 10. —	—.
1868	20. 3. 9	20. 4. —	20. —. —	20. 10. —	20. 4. —
1869	20. 3. —	20. 7. 6	20. 15. —	19. 15. —	20. 7. 4
1870	18. 17. 6	19. 7. 6	18. 15. —	17. 5. —	18. 10. 3½
1871	17. 15. —	17. 15. —	18. 5. —	18. 12. 6	18. 8. 9
1872	22. 2. 6	22. 10. —	22. 12. 6	22. 17. 6	22. 9. 0½
1873	23. 17. 6	27. 7. 6	25. 5. —	26. 15. —	26. 3. 6½
1874	25. 7. 6	21. 7. 6	22. —. —	23. 2. 6	22. 17. 7
1875	23. 12. 6	22. 17. 6	23. 18. 9	24. 15. —	24. 1. 4
1876	25. 10. —	24. —. —	22. 2. 6	22. 17. 6	23. 6. 3
1877	21. 5. —	20. 10. —	19. 7. 6	19. 7. 6	19. 18. 8
1878	18. 18. 9	18. 3. 9	18. 2. 6	17. 16. 3	17. 17. 10
1879	16. 5. —	15. 1. 3	14. 2. 6	19. —. —	16. 12. —
1880	20. 17. 6	19. 16. 3	18. 2. 6	16. 16. 3	18. 7. 1
1881	16. 12. 6	15. 3. 9	15. 15. —	16. 17. 6	16. 5. 6
1882	17. 15. —	17. 1. 3	16. 17. 6	16. 18. 7	16. 19. 9
1883	15. 19. 9	15. 4. 9	15. 2. 1	15. 18. 9	15. 6. 6¼
1884	15. 0. 3	14. 10. —	14. 7. 6	14. 10. 9	14. 8. 11
1885	13. 19. 4	13. 15. —	13. 10. 11	14. 3. 11	13. 19. 11
1886	15. —. —	14. 6. 3	14. 0. 6	14. 0. 9	14. 5. 1
1887	14. 9. 10	14. 0. 8	14. 11. 3	15. 16. —	15. 4. —
1888	20. 14. 8	18. 0. 2	15. 15. 6	18. 18. 5	18. 1. 9
1889	18. 5. 5	17. 4. 3	19. 7. 9	21. 17. 11	19. 15. 7
1890	24. 3. 9	20. 13. 4	23. 1. 2	24. 17. —	23. 4. 6
1891	22. 14. 7	22. 15. —	23. 14. 7	23. 12. 1	23. 4. 8
1892	22. 6. 11	22. 2. 2	21. 13. —	18. 18. —	20. 16. 6
1893	18. 0. 8	17. 16. 3	17. 13. 4	16. 17. 6	17. 8. 0
1894	16. 5. 6	15. 14. —	15. 16. 10	15. 2. 8	15. 9. 2
1895	14. 4. 9	13. 18. 8	14. 13. 2	15. 5. 2	14. 12. 2
1896	14. 5. 11	15. 14. 3	17. 16. 4	16. 13. 8	16. 11. 10
1897	17. 16. 4	17. 6. —	17. 1. 6	17. 14. 9	17. 9. 10
1898	18. —. —	18. 13. 5	20. 5. —	23. 2. 6	20. 8. 9
1899	24. 17. —	28. 1. 6	25. 13. 1	22. 1. 4	24. 17. 2
1900	21. 3. 6	22. 2. 10	19. 9. 6	19. 0. 10	20. 5. 6
1901	18. 13. 4	16. 11. 7	16. 11. 4	16. 18. 1	17. 0. 7

TIN.

XV. General Summary.

As per tables XVI, XVII, XVIII et XIX.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Tin	65 600	68 800	74 800	76 200	74 200	71 000	70 400	71 800	79 300	86 200
Total of the quantities available for consumption in the different countries (table XVII)	59 400	64 600	62 100	69 600	72 300	70 600	79 100	72 500	76 200	76 300
Yearly average-price . . . . . . ₤	$93\,^{3}/_{8}$	$85\,^{3}/_{8}$	$68\,^{3}/_{4}$	$63\,^{3}/_{8}$	$59\,^{1}/_{2}$	$61\,^{3}/_{8}$	$71\,^{1}/_{5}$	$122\,^{7}/_{16}$	$133\,^{9}/_{16}$	$118\,^{5}/_{8}$
Value of the production in units of 1000 Marks	121 000	116 000	101 000	95 000	87 000	86 000	99 000	173 000	208 000	203 000
Position of Public Stocks on January 1st including shipments afloat	15 960	19 511	20 402	29 687	36 276	40 742	35 496	23 727	21 012	20 703

On January 1st 1902. . . . . 26 000.

XVI. Production of Tin from 1892 to 1901.

According to the circulars of William Sargant & Co., London, Ricard & Freiwald, London and Amsterdam, and to the „Mineral Statistics of the United Kingdom".

		1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
1. England	engl. tons	9 270	8 837	8 327	6 648	4 837	4 452	4 648	4 034	4 268	4 200
2. Straits shipments to Europe and America		34 648	39 670	45 640	47 840	47 180	41 700	43 350	44 460	46 070	49 925
3. Australian Tin, Shipments to Europe and America		5 972	5 579	5 824	4 992	4 320	3 466	2 420	3 337	3 178	3 345
4. Banca-Sales in Holland		6 300	5 244	5 626	6 221	6 735	8 900	9 038	9 066	11 820	14 978
5. Billiton-Sales in Holland and in Java . . .		5 560	5 462	4 735	4 539	5 040	5 100	5 342	5 057	5 820	4 387
6. Bolivian Imports into Europe		2 819	2 909	3 482	4 097	4 039	5 506	4 464	4 753	6 937	8 000
7. Singkep-Sales . . .		—	—	—	644	839	800	—	—	—	—
Total: in English Tons . . .		64 569	67 701	73 634	74 981	72 990	69 924	69 262	70 707	78 093	84 835
Total: in Metric Tons . . .		65 602	68 784	74 812	76 180	74 157	71 042	70 371	71 839	79 341	86 192

The following productions have not been accounted for in the above table in consequence of want of reliable information:

1. The Production of Europe, (excluding England) from home ores and also the production of Japan.
2. The Exports of the Straits Settlements, to British-India, China, Corea and Japan.
3. The Exports of Siam and the Dutch East-Indies to British-India, China, Corea and Japan.
4. The Home-Consumption of the Straits-Settlements, Siam and the Dutch East-Indies.
5. The Home-Consumption of Australia.
6. The Production of China.

It must be observed that:

1. The Productions in question are unimportant, we estimate them at a maximum of 150—200 tons per annum.
2. The Exports of Tin from the Straits to British-India and China amounted according to the London firm Mess^rs Boustead & Co. to:

in:	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
to British-India . . .	1626	2275	1987	2053	2198	1653	1563	761	724	1111
› China	1879	2077	2743	2696	4019	1607	1027	808	1101	1586
Metric tons	3505	4352	4730	4749	6207	3260	2590	1569	1825	2697

3. and 4. Could not be ascertained.

5. The amount of tin remaining in Australja should, according to the data at our disporal, amount to about 1000 tons in 1899. There are as yet no figures to hand for 1900 and 1901.

5. The Chinese Production, about which no information can be gathered at all, varies according to Professor Louis, Newcastle-on-Tyne from 10 000 to 20 000 tons per year and is said to be entirely absorbed by home-consumption.

XVII. Consumption of Raw-Tin.

As per tables 76, 79, 81, 83, 84, 85, 90.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
1. Germany	8 883	10 924	11 058	10 765	13 757	12 463	14 752	12 613	12 859	12 691
2. Great Britain, taking the Public Stocks into account	15 906	14 358	15 150	18 550	14 381	14 953	13 703	9 221	12 562	14 344
3. France	6 509	6 773	7 504	7 260	7 875	7 153	8 868	6 541	6 748	7 126
4. Austria-Hungary . . .	2 381	2 910	3 130	3 040	3 264	3 428	3 721	2 879	3 326	3 558
5 Netherlands, taking the Public Stocks into account	* 200	* 200	* 200	* 200	* 200	* 200	* 200	* 200	* 200	* 200
6. Italy	1 010	1 156	1 300	1 477	1 753	1 491	1 688	1 171	1 519	1 657
7. Switzerland	642	832	950	982	1 150	1 180	1 354	1 014	1 061	1 317
8. Spain	828	1 008	1 028	825	1 080	923	834	939	1 143	1 113
9. Russia	1 600	2 200	2 000	2 100	2 400	1 800	2 000	1 700	1 900	2 100
10. United States, taking the Public Stocks into account	18 978	20 897	16 632	21 454	23 125	24 122	28 924	33 573	31 601	29 018
11. Other Countries. . . .	2 500	3 300	3 100	2 900	3 300	2 900	3 100	2 600	3 300	3 200
Total	59 437	64 558	62 052	69 553	72 285	70 613	79 144	72 451	76 219	76 324

XVIII. Position of the Public Stocks of Tin

on the 1st January for the last 16 years.

According to William Sargant & Co., London.

Since 1902 according to Ricard & Freiwald, London and Amsterdam and W. T. Sargant & Sons, London.

Metric Tons.

On the 1st January of the year	Public stocks in Holland England and America including shipments afloat and the "Trading Co.'s Reserves of unsold Banca".	On the 1st January of the year	Public stocks in Holland, England and America including shipments afloat and the "Trading Co.'s Reserves of unsold Banca".
1887	13 921	1895	29 687
1888	19 162	1896	36 276
1889	18 724	1897	40 742
1890	17 451	1898	35 496
1891	14 401	1899	23 727
1892	15 960	1900	21 012
1893	19 511	1901	20 703
1894	20 402	1902	26 000

XIX. Average-Prices of Foreign Tin.

	£ per english ton	American cents per ℔		£ per english ton	American cents per ℔
1877	69. 10. 8	—	1890	94. 3. 6	21. 15
1878	61. 19. 2	—	1891	91. 3. —	20. 10
1879	70. 15. —	—	1892	93. 6. 8	20. 45
1880	87. 7. 6	—	1893	85. 7. 7	20. 15
1881	91 17. 11	$20^{3}/_{4}$	1894	68. 14. 2	18. 08
1882	102. 18. 9	$23^{3}/_{8}$	1895	63. 7. 1	14. 05
1883	93. 5. —	20. 75	1896	59. 9. 11	13. 23
1884	81. —. —	18. 10	1897	61. 8. —	13. 60
1885	86. 12. 6	19. 50	1898	71. 4. 1	15. 70
1886	97. 6. 6	21. 55	1899	122. 8. 7	25. 12
1887	111. 15. —	24. 85	1900	133. 11. 6	29. 90
1888	117. 10. —	26. 20	1901	118. 12. 8	26. 54
1889	93. —. 9	20. 85			

XX. PRODUCTION OF SILVER

for the years 1892—1900.

(At Works and Mines.[1])

Metric Tons.

Countries	1892		1893		1894		1895		1896		1897		1898		1899		1900		1901	
1. Germany	489.3	_212.1_	449.3	_179.0_	444.2	_193.0_	392.0	_181.0_	428.4	_183.3_	448.0	_171.0_	480 6	_173.3_	467.6	_194.2_	415.7	_168.4_	403.8	Not known yet
2. Great Brit.	*540.0	_5.3_	*600.0	_7.9_	*600.0	_7.9_	*420.0	_8.7_	*310.0	_8.2_	*375.0	_7.2_	*310.0	_6.6_	*275.0	_5.8_	*266.0	_6.9_	*285.0	
3. France	103.2	_92.7_	98.1	_98.1_	97.0	_26.1_	71.1	_17.6_	70.5	_16.4_	80.4	_16.9_	90.9	_14.3_	82.1	_14.5_	85.6	_14.5_	Not	
4. Austria-Hungary	55.0	_55.1_	61.2	_90.1_	58.3	_83.5_	60.5	_67.9_	59.7	_58.0_	66.8	_61.3_	59.1	_56.4_	60.6	_59.0_	60.6	_61.9_	59 8	
5. Belgium	*57.0	—	62.7	—	67.0	—	66.9	—	59.4	—	75.7	—	100.6	—	120.9	—	123.0	—	154.0	
6. Spain and Portugal	55.7	_46.3_	62.6	_62.6_	85.0	_63.6_	83.0	_109.8_	92.0	_179.8_	131.0	_71.2_	114.0	_76.4_	88.4	_76.4_	99.9	_99.2_	84.5	
7. Italy	43.0	_39.8_	40.1	_28.9_	58.6	_28.9_	44.2	_5.7_	38.1	_27.2_	45.3	_22.9_	43.4	_25.0_	33.6	_25.5_	31.2	_23.4_	32.2	
8. Russia	13.7	_14.5_	12.5	_10.1_	9.9	_8.6_	10.8	_12.5_	10.4	_10.5_	8.9	_8.9_	8.7	_8.7_	4.2	_4.2_	4.4	_4.5_		
9. Sweden	5.2	—	4.5	_4.5_	2.9	_2.9_	1.2	_1.2_	2.1	_0.6_	2.2	_0.6_	2.0	_2.0_	2.3	_2.3_	1.9	_1.9_		
10. Norway	4.8	_4.5_	4.8	_4.5_	4.8	_4.7_	5.0	_6.1_	4.7	_5.0_	5.4	_6.5_	4.8	_5.4_	4.6	_5.2_	5.0	_5.4_	4.0	
11. Turkey	*1.3	_*6.3_	1.3	_6.3_	1.5	_1.5_	1.5	_8.1_	*1.5	_7.0_	*1.5	_4.4_	*1.5	_4.4_	*1.5	_4.4_	*1.5	_4.4_	known yet	
12. Greece	—	_2.0_	—	_2.0_	—	_35.4_	—	_35.4_	—	_32.0_	—	_37.4_	—	_42.0_	—	_36.7_	—	_36.7_		
13. Serbia	—	—	—	—	—	—	—	—	—	_0.6_	—	_0.6_	—	_0.6_	—	_0.6_	—	—		
Total: Europe	1368.2	_478.6_	1397.1	_494.0_	1429.2	_456.1_	1156.2	_454.0_	1076.8	_528.6_	1240.2	_408.9_	1215.6	_415.1_	1140.8	_428.8_	1094.8	_427.2_		
14. Unit. Stat. of North-America	2344.3	_1975.5_	2391.8	_1866.6_	2136.4	_1539.9_	2467.0	_1733.7_	2814.0	_1830.3_	2850.0	_1675.6_	2825.0	_1693.6_	2915.0	_1703.7_	3310.0	_1793.4_	Not known yet	Not known yet
15. Mexico	840.5	_1228.9_	889.2	_1380.1_	1061.7	_1463.4_	*900.0	_1461.0_	*850.0	_1422.3_	*850.0	_1677.0_	*850.0	_1765.1_	*800.0	_1730.1_	763.0	_1786.9_		
16. Central- and South-America	*500.0	_590.9_	*500.0	_703.6_	*500.0	_1012.0_	*500.0	_1050.5_	*300.0	_560.3_	*300.0	_632.3_	*300.0	_860.0_	*300.0	_793.1_	*300.0	_757.9_		
17. Canada	—	_10.7_	—	_7.7_	—	_26.4_	—	_55.2_	—	_99.7_	—	_172.9_	—	_138.5_	—	_106.1_	—	_138.4_		
Total: Amca	3684.8	_3806.0_	3781.0	_3958.0_	3698.1	_4041.7_	3867.0	_4300.4_	3964.0	_3912.6_	4000.0	_4157.8_	3975.0	_4457.2_	4015.0	_4333.0_	4373.0	_4476.6_		
18. Australia	75.0	_418.1_	187.0	_637.8_	210.0	_562.3_	237.5	_389.1_	253.0	_380.7_	214.7	_369.5_	173.0	_326.4_	165.0	_396.3_	180.0	_415.0_	180.0	
19. Japan	60 4	_*55.0_	69.4	_58.0_	72.2	_60.9_	72.5	_67.4_	64.5	_64.3_	55.7	_54.4_	60.9	_60.6_	56.6	_55.6_	*55.6	_55.6_		
20. East-India	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	_2.5_		
Total-Prodtion	5188.4	_4757.7_	5434.5	_5147.8_	5409.5	_5121.0_	5333.2	_5210.9_	5358.3	_4886.2_	5510.6	_4990.6_	5424.5	_5259.3_	5377.4	_5213.3_	5703.4	_5377.0_		

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[1] The large figures give the production at works as calculated by us, while the small figures in italics give the production at mines according to the data of the Director of the American Mint.

XXI. Average-Prices of Standard Silver

in London.

Year	Average-price per oz.	Year	Average-price per oz.	Year	Average-price per oz.
1833	$59^{3}/_{16}$ *d*	1856	$61^{5}/_{16}$ *d*	1879	$51^{1}/_{4}$ *d*
1834	$59^{15}/_{16}$ „	1857	$61^{3}/_{4}$ „	1880	$52^{1}/_{4}$ „
1835	$59^{11}/_{16}$ „	1858	$61^{5}/_{16}$ „	1881	$51^{11}/_{16}$ „
1836	60 „	1859	$62^{1}/_{16}$ „	1882	$51^{5}/_{8}$ „
1837	$59^{9}/_{16}$ „	1860	$61^{11}/_{16}$ „	1883	$50^{9}/_{16}$ „
1838	$59^{1}/_{2}$ „	1861	$60^{13}/_{16}$ „	1884	$50^{5}/_{8}$ „
1839	$60^{3}/_{8}$ „	1862	$61^{7}/_{16}$ „	1885	$48^{5}/_{8}$ „
1840	$60^{3}/_{8}$ „	1863	$61^{3}/_{8}$ „	1886	$45^{3}/_{8}$ „
1841	$60^{1}/_{16}$ „	1864	$61^{3}/_{8}$ „	1887	$44^{5}/_{8}$ „
1842	$59^{7}/_{16}$ „	1865	$61^{1}/_{16}$ „	1888	$42^{7}/_{8}$ „
1843	$59^{3}/_{16}$ „	1866	$61^{1}/_{8}$ „	1889	$42^{11}/_{16}$ „
1844	$59^{1}/_{2}$ „	1867	$60^{9}/_{16}$ „	1890	$47^{11}/_{16}$ „
1845	$59^{1}/_{4}$ „	1868	$60^{1}/_{2}$ „	1891	$45^{1}/_{16}$ „
1846	$59^{5}/_{16}$ „	1869	$60^{7}/_{16}$ „	1892	$39^{13}/_{16}$ „
1847	$59^{11}/_{16}$ „	1870	$60^{9}/_{16}$ „	1893	$35^{5}/_{8}$ „
1848	$59^{1}/_{2}$ „	1871	$60^{1}/_{2}$ „	1894	$28^{15}/_{16}$ „
1849	$59^{3}/_{4}$ „	1872	$60^{5}/_{16}$ „	1895	$29^{7}/_{8}$ „
1850	$60^{1}/_{16}$ „	1873	$59^{1}/_{4}$ „	1896	$30^{3}/_{4}$ „
1851	61 „	1874	$58^{5}/_{16}$ „	1897	$27^{9}/_{16}$ „
1852	$60^{1}/_{2}$ „	1875	$56^{7}/_{8}$ „	1898	$26^{15}/_{16}$ „
1853	$61^{1}/_{2}$ „	1876	$52^{3}/_{4}$ „	1899	$27^{7}/_{16}$ „
1854	$61^{1}/_{2}$ „	1877	$54^{13}/_{16}$ „	1900	$28^{1}/_{4}$ „
1855	$61^{5}/_{16}$ „	1878	$52^{9}/_{16}$ „	1901	$27^{3}/_{16}$ „

The fluctuations of silver during the last seven years and the first months of the present year are shown in the following table of monthly average-prices in London:

d per oz standard.

	1895	1896	1897	1898	1899	1900	1901	1902
January	27,3472	30,6458	29,7361	26,40	27,41	27,28	28,98	25,69
February	27,4843	30,9765	29,7109	25,88	27,43	27,46	28,14	25,42
March	28,2847	31,3125	28,9513	25,44	27,47	27,55	27,94	25,01
April	30,4166	31,0546	28,3680	25,92	27,63	27,41	27,30	23,71
May	30,6041	31,0833	27,7421	26,31	28,15	27,54	27,45	
June	30,4453	31,3888	27,5902	27,08	27,77	27,80	27,42	
July	30,4513	31,4305	27,4028	27,31	27,71	28,23	26,96	
August	30,3958	30,9531	24,9931	27,46	27,62	28,16	26,94	
September . . .	30,5312	30.3958	25,4688	28,04	27,15	28.82	26,96	
October	30,9097	30,0347	26,7847	27,89	26,70	29,57	26,61	
November . . .	30,7986	29,9687	26,8888	27,92	27,06	29.64	26,09	
December . . .	30,4166	29,9097	26,7986	27.44	27,17	29,68	25,44	

XXII. PRODUCTION OF NICKEL.

Metric Tons.

Year	Sweden and Norway	Germany 1)	Nickel-contents of ores exported from **New-Caledonia**, less the quantity of Nickel produced in Germany from New-Caledonian ores				United States of North-America and Canada	Total	Approximate Price per Kilo
1889	80	282	1050				409	**1829**	ℳ 4.50
1890	100	434	1200				750	**2484**	„ 4.50
1891	125	594	1900				2160	**4779**	„ 4.50
1892	97	746	950				1950	**3743**	„ 4.50
1893	90	893	1600				1800	**4383**	„ 3.80
1894	90	522	1900				2250	**4762**	„ 3.60
1895	40	698	1850				1800	**4388**	„ 2.60
			Production of Nickel from New-Caledonian ores in						
			Germany 1)	France	England	Total			
1896	20	—	822	1545	340	2707	1700	**4427**	„ 2.50
1897	—	—	898	1245	715	2858	1900	**4758**	„ 2.50
1898	—	—	1108	1540	1000	3648	3250	**6898**	„ 2.50
1899	—	—	1115	1740	1350	4205	3650	**7855**	„ 2.50
1900	—	—	1376	1700	1450	4526	3000²)	**7526**	„ 3.—
1901	—	—	1600	1650	1750	5000	3600²)	**8600**	ℳ 2.90—3.20

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¹) The figures of production, as inserted for Germany, represent the production of the kingdom of Prussia only. The kingdom of Saxony also produces nickel but we were unable to obtain any reliable information as to the amount thereof which is however inconsiderable.

²) According to the "Engineering and Mining Journal" New York, the production from metallic nickel and nickel in oxide and other salts amounted to about 3,500 tons in 1900 and 3950 tons in 1901, but we consider these figures too high.

XXIII. ALUMINIUM.

In Kilograms.

	Germany		Aluminium-Industrie-Aktien-Gesellschaft. Works in Neuhausen (Switzerland), Rheinfelden (Baden) and Lend-Gastein[2] (Austria)	Switzerland	England	France			United States[4]		Total-Production
	Import	Export	Production	Export	Production	Production	Import	Export	Production	Import	
1890	—	—	**40 538**	137 200[3]	**70 000**	**37 000**	109	187	**27 850**	929	**175 388**
1891	—	—	**168 669**	201 900[3]	**52 500**	**36 000**	593	130	**76 138**	1 777	**333 307**
1892	—	—	**237 395**	277 900	**41 000**	**75 000**	2 007	42 287	**133 635**	19	**487 030**
1893	—	—	**437 476**	404 100	—	**137 000**	1 524	33 367	**141 336**	3 541	**715 812**
1894	—	—	**600 000**	520 200	—	**270 000**	2 958	30 787	**370 372**	2 403	**1 240 372**
1895	—	—	**650 000**	490 900	—	**360 000**	3 806	109 954	**416 760**	11 458	**1 426 760**
1896	591 500[1]	26 800	***700 000**	661 100	**130 000**	**370 000**	7 012	192 763	**589 676**	316	**1 789 676**
1897	942 400	38 000	***800 000**	706 000	**310 000**	**470 000**	6 360	224 000	**1814400**	—	**3 394 400**
1898	1 103 900	124 600	***800 000**	677 300	**310 000**	**565 000**	5 972	187 955	**2358704**	27	**4 033 704**
1899	922 000	230 100	**1 600 000**	604 200	**550 000**	**1000000**	8 468	256 242	**2948381**	—	**6 098 381**
1900	943 400	268 500	**2 500 000**	571 200	**560 000**	**1500000**	8 300	323 700	**3250000**	—	**7 810 000**
1901	1 089 600	282 400	***2 500 000**	504 100	**560 000**	***1 500 000**	11 400	306 600	***3250000**	—	**7 810 000**

For 1901 the Works have refused to give any information re the amount of their production. We have therefore by way of estimate again inserted the figures of 1900, which, however, according to our last publication, are probably too high as regards France and the United States.

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[1] The German Statistics do not give any figures for aluminium before 1896.

[2] The works of Rheinfelden and Lend-Gastein have only been in operation since 1899.

[3] The figures for 1890 and 1891 include aluminium-alloys and manufactured-aluminium.

[4] The exports of aluminium and manufactured aluminium from the United-States have only been given separately in the American official statistics since 1898 and then only according to value. The same amounted to $ 239,997 in 1898, $ 291,515 in 1899, $ 281,821 in 1900, and $ 183,579 in 1901.

XXIV. Statistics of the Prices of Aluminium

since the time of its first manufacture.

Year	Manufacturer	Approximate Price per Kilo
		ℳ.
1855	Deville at Glacière	1000. —
1856	„ „ „	300. —
1857	Morin at Nanterre	240. —
1857—1886	Merle & Co., Salindres	100. —
1886	Hemelingen	70. —
1888	Alliance Aluminium Co.	47. 50
1890, Feby.	Neuhausen	27. 60
1890, Septbr.	„	15. 20
1891, Feby.	„	12. —
1891, July	„	8. —
1891, Novbr.	„	5. —
1892		5. —
1893		5. —
1894		4. —
1895		3. —
1896		2. 60
1897		2. 50
1898		2. 20
1899		2. 20
1900		2. —
1901		2. —

XXV. PRODUCTION OF QUICKSILVER.

Metric Tons.

Year	United States of North America	Spain	Austria-Hungary	Russia	Italy	Total	Price of Spanish Quicksilver in London. per bottle of 76,5 lbs.		Price at San Francisco per bottle of 76,5 lbs.		
							highest	lowest	highest	medium	lowest
1892	971	1657	542	343	325	**3 838**	Ł 7.15.—	Ł 6. 1.—		$ 38.80	
1893	1047	1665	512	200	273	**3 697**	„ 6.17. 6	„ 6. 2. 6	$ 43.50		$ 30.—
1894	1056	1609	519	196	258	**3 638**	„ 6.15.—	„ 5.10.—	„ 37.—		„ 27.50
1895	1179	1506	535	434	199	**3 853**	„ 7. 7. 6	„ 6. 7. 6	„ 41.—		„ 35.90
1896	1036	1524	564	492	186	**3 802**	„ 7. 5.—	„ 6. 8. 6	„ 40.—		„ 35.50
1897	965	1728	532	617	192	**4 034**	„ 7. 7. 6	„ 6.12. 6	„ 40.50		„ 35.50
1898	1058	1691	500	362	173	**3 784**	„ 7.15.—	„ 7.—.—	„ 42.50		„ 38.—
1899	993	1361	563	360	206	**3 483**	„ 9.12. 6	„ 7.15.—	„ 52.—		„ 41.—
1900	967	1112	550	304	270	**3 203**	„ 9.12. 6	„ 9. 2. 6	„ 52.—		„ 47.50
1901	992	846	540	363	273	**3 014**	„ 9. 2. 6	„ 8.17. 6	„ 48.50		„ 46.—

It has been impossible to get reliable figures of the production of Quicksilver in Mexico, China, Japan and Peru. The "Mineral Industry", gives however the Mexican production as follows:

	1893	1894	1895	1896	1897	1898	1899	1900
in metric tons:	286	300	213	218	294	353	324	335

but in reality the production is far higher, for in Mexico there are a great number of little mines which are worked by the natives and about the production of which it is impossible to get any information.

NB.: The Stocks of Quicksilver at London have been estimated for the end of 1901 at 54000 bottles at Kg 34,5 each.

Quicksilver.

Great Britain.

Imports and Exports of Quicksilver.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports . .	1 939	1 787	1 745	1 689	1 559	1 863	1 857	1 764	1 116	1 206
Exports . .	1 713	1 294	1 483	1 259	1 200	1 047	1 157	1 100	883	916

Germany.

Imports and Exports of Quicksilver.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports . .	573	460	541	613	563	643	560	572	555	651
Exports . .	48	30	17	65	63	111	97	23	23	27

United States of America.

Exports of Quicksilver.

Metric Tons.

1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
122	575	500	539	692	457	445	573	353	390

Of the **imports** of Quicksilver into the United States the "Mineral Industry" gives the following details:

1895	1896	1897	1898	1899	1900
$ 2 503	$ 2 037	45 539 lb1)	81 lb	131 lb	2 616 lb
		$ 20 147	$ 51	$ 83	$ 1 051

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1) 1 lb = Kg: 0,4536.

Computations of the Consumption.

LEAD.

Germany.

1. Production, Imports and Exports of Lead-ores and Pig-lead, as well as Consumption of Pig-lead during 1885—1901.

Metric Tons.

Period	Production of Lead-ores	Imports of Lead-ores	Exports of Lead-ores	Production of Pig-lead	Imports of Pig-lead	Exports of Pig-lead	Consumption of Pig-lead
1885	157 900	—	—	93 134	1 489	41 123	53 500
1886	158 500	—	—	92 520	2 037	38 771	55 786
1887	157 600	—	—	94 921	7 619	39 108	63 432
1888	161 800	—	—	96 995	7 358	34 890	69 463
1889	169 600	—	—	100 601	9 499	32 780	77 320
1890	168 200	—	—	101 781	12 766	32 115	82 432
1891	159 200	—	—	95 615	17 625	24 972	88 268
1892	163 400	—	—	97 742	17 500	25 647	89 595
1893	168 400	—	—	94 659	23 857	23 945	94 571
1894	162 700	—	—	100 753	24 280	24 355	100 678
1895	161 614	—	—	111 058	28 449	27 855	111 652
1896	157 504	61 742[1]	2 541[1]	113 792	33 016	24 828	121 980
1897	150 179	88 226	2 106	118 881	35 092	24 075	129 898
1898	149 311	62 817	1 798	132 742	47 497	24 867	155 372
1899	144 370	61 634	1 703	129 225	55 635	24 491	160 369
1900	148 257	51 338	1 309	121 513	70 252	18 825	172 940
1901	153 340	100 196	891	123 098	52 886	20 820	155 164

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[1] The German Official Statistics only give the figures of Imports and Exports of Lead-ores since 1896.

2. Imports and Exports of Articles of Lead and Chemical Produce containing Lead.

Metric Tons.

	A. Imports.										B. Exports.									
I. Articles of Lead.	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
1. Lead: sheets, rolled and Cames . . .	15	13	26	13	23	16	16	22	13	21	1 929	2 421	2 510	3 244	3 229	2 802	4 272	4 390	5 733	4 073
2. Lead-piping not enamelled	9	10	23	15	10	10	9	12	11	13	1 247	1 750	1 753	1 831	2 914	1 924	2 841	2 923	2 700	2 898
3. Rough goods, Wire, Shot	57	61	54	57	66	71	41	36	85	32	2 022	2 558	2 994	3 068	2 789	2 766	2 312	2 404	3 455	2 412
4. Fine goods including Toys	30	16	11	11	16	15	15	13	25	14	313	334	260	1 035	484	1 495	2 116	2 364	1 616	3 233
Total	111	100	114	86	115	112	81	83	134	80	5 511	7 063	7 517	9 178	9 416	8 987	11 541	12 081	13 504	12 616
So that there is an excess in exports of											5 400	6 963	7 403	9 092	9 301	8 875	11 460	11 998	13 370	12 536
II. Chemical Products, calculated on their approximate lead-contents																				
1. Litharge.	977	1 084	1 250	756	719	573	512	365	399	220	2 026	1 997	2 459	2 452	2 986	3 576	3 588	3 384	3 219	4 406
2. White-lead	570	746	517	383	463	557	658	562	558	338	10 970	10 730	11 192	11 408	13 083	11 829	13 179	13 088	12 100	13 573
3. Sugar of lead and Vinegar of lead .	36	30	11	37	31	72	71	39	16	12	770	796	936	867	848	647	615	772	767	690
4. Minium	400	346	371	319	381	375	489	698	569	527	4 892	5 091	4 974	5 923	6 436	6 101	7 091	6 368	5 943	6 698
Total	1 983	2 206	2 149	1 495	1 594	1 577	1 730	1 664	1 542	1 097	18 658	18 614	19 561	20 650	23 348	22 153	24 473	23 612	22 029	25 367
So that there is an excess in exports of											16 675	16 408	17 412	19 155	21 754	20 576	22 743	21 948	20 487	24 270

3. The consumption of pig-lead and the excess in the exports of articles of lead points to the following **total consumption of lead:**

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
to Metric Tons . .	84 195	87 608	93 275	102 560	112 679	121 019	143 912	148 371	159 570	142 628

4. Considering the production of litharge (calculated on its lead-contents), which amounted

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
to Metric Tons. . .	3 121	3 196	3 281	3 090	3 537	3 007	3 471	3 206	2 779	3 691

and the excess in exports of lead in Chemical products the total consumption is reduced

in.	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
to Metric Tons. . .	70 641	74 396	79 144	86 495	94 462	103 450	124 640	129 629	141 862	122 049

England.

5. Consumption of Pig-lead.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production from domestic and foreign material .	42 800	36 300	39 700	45 500	57 200	40 000	50 000	42 000	35 500	40 000
Hereof from domestic material . . .	*30 127*	*30 174*	*30 162*	*29 464*	*31 347*	*26 988*	*25 761*	*23 930*	*24 753*	*25 000*
Import of argentiferous and refined pig-lead .	185 707	191 260	164 450	165 530	170 483	170 119	197 592	201 551	198 506	221 548
Total	228 507	227 560	204 150	211 030	227 683	210 119	247 592	243 551	234 006	261 548
Export of pig-lead .	55 668	49 145	42 303	40 900	31 483	27 785	35 429	38 107	31 151	31 355
Consumption of pig-lead . .	172 839	178 415	161 847	170 130	196 200	182 334	212 163	205 444	202 855	230 193

6. The Export of English sheet lead and lead-pipes amounted:

in.	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
to Metric Tons. . . .	19 288	19 645	19 566	19 452	22 897	20 161	19 720	19 839	18 806	19 739

7. If these exports are deducted from the consumption of pig-lead the following **Total-consumption of lead** results:

in.	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
to Metric Tons . .	153 551	158 770	142 281	150 678	173 303	162 173	192 443	185 605	184 049	210 454

The English Official Statistics do not contain any details respecting the imports and exports of chemical products containing lead.

France.

8. Consumption of Pig-lead.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of pig-lead . .	8 825	8 152	8 758	7 627	8 232	9 916	10 920	16 947	16 976	19 000
Imports of pig-lead . . .	73 720	77 363	84 492	66 952	79 752	86 590	87 526	80 297	85 549	75 066
Total	82 545	85 519	93 250	74 579	87 984	96 506	98 446	97 244	102 525	94 066
Exports of pig-lead . . .	9 000	8 450	7 090	9 922	10 208	9 767	7 023	3 958	6 265	7 501
Consumption of pig-lead .	73 545	77 065	86 160	64 657	77 776	86 739	91 423	93 286	96 260	86 565

9. Imports and Exports of Articles of Lead and Chemical Products containing Lead.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
a) Imports of articles of lead	484	465	372	359	365	962	1 057	875	838	500
Exports » »	4 135	3 530	3 675	3 223	4 486	3 236	4 098	5 783	5 295	5 300
i. e. excess in exports	3 651	3 065	3 303	2 864	4 120	2 274	3 041	4 908	4 457	4 800
b) Imports of chemical products calculated on the lead contents . . .	2 076	2 119	2 724	2 620	2 586	2 681	2 800	3 200	2 600	2 800
Exports idem	1 559	1 776	1 929	2 420	3 096	3 129	2 300	2 500	2 600	2 600
i. e. Excess in imports	517	343	795	200	—	—	500	700	—	200
Excess in exports	—	—	—	—	510	448	—	—	—	—

10. The Consumption of pig-lead and the excess in exports of the articles of lead result in the following **total consumption of lead**

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Metric Tons . .	69 894	74 000	82 857	61 796	73 656	84 465	88 382	88 378	91 803	81 765

11. This consumption is increased or reduced when the excess in exports or imports of chemical products containing lead respectively is taken into account.

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
to Metric Tons .	70 411	74 343	83 652	61 993	73 146	84 017	88 882	89 078	91 803	81 965

Austria-Hungary.

12. Consumption of Pig-lead.

Metric Tons.

Production of pig-lead:	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
1. Austria . .	7 252	7 212	7 571	8 085	9 770	9 680	10 340	9 736	10 650	*12 000
2. Hungary . .	2 335	2 513	2 113	2 277	1 911	2 527	2 305	2 166	2 031	
Imports of pig- and old lead	7 090	5 925	8 842	8 974	7 221	5 887	9 746	8 836	7 916	10 722
Total	16 677	15 650	18 526	19 336	18 902	18 094	22 391	20 738	20 597	22 722
Exports of pig- and old lead	77	46	84	60	88	56	353	133	311	35
Consumption of pig-lead .	16 600	15 604	18 442	19 276	18 814	18 038	22 038	20 605	20 286	22 687

13. Imports and Exports of articles of Lead and Chemical Products containing Lead.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
a) Imports of lead, cast, rolled etc.	171	255	200	208	218	148	153	235	175	311
Exports idem .	98	187	158	148	185	159	147	125	82	33
Excess in imports	73	68	42	60	33	—	6	110	93	278
Excess in exports	—	—	—	—	—	11	—	—	—	—
b) Imports of chemical products calculated on their lead-contents .	991	847	1 000	848	779	799	890	709	573	710
Exports idem .	1 699	1 563	1 496	1 049	910	637	400	352	342	326
Excess in imports	708	716	496	201	131	—	—	—	—	—
Excess in exports	—	—	—	—	—	162	490	357	231	384

14. The consumption of pig-lead and the excess in imports or exports of sheet-lead results in a **total consumption of lead**:

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Metric Tons . .	16 673	15 672	18 484	19 336	18 847	18 027	22 044	20 715	20 379	22 965

15. Considering the production of litharge, which calculated upon its contents of lead amounted

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
in Austria: to Metric Tons	2 268	2 170	1 851	1 832	1 564	1 462	1 368	1 374	1 159	1 072
in Hungary: to Metric Tons	456	400	620	560	420	306	169	192	180	214

and further taking into account the excess in imports and exports of lead in chemical products, the total consumption amounts

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
to Metric Tons .	18 689	17 526	20 459	21 527	20 830	19 957	24 071	22 638	21 949	24 635

Italy.

16. Consumption of Pig-lead.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of pig-lead . .	22 000	19 898	19 605	20 353	20 786	22 407	24 543	20 543	23 763	26 158
Imports of pig-lead . . .	2 166	1 657	1 499	947	1 166	1 179	1 431	3 990	3 248	2 926
Total	24 166	21 555	21 104	21 300	21 952	23 586	25 974	24 533	27 011	29 084
Exports of pig-lead . . .	1 377	1 570	1 157	2 154	1 419	2 790	5 870	2 497	4 861	4 463
Consumption of pig-lead . .	22 787	19 985	19 947	19 146	20 533	20 796	20 104	22 036	22 150	24 621

17. Imports and Exports of Articles of Lead.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports of articles of lead	170	141	131	232	192	247	434	249	233	267
Exports of articles of lead	1 289	1 831	1 761	1 492	1 441	1 410	1 764	910	1 408	2 128
Excess in exports . . .	1 119	1 690	1 630	1 260	1 249	1 163	1 330	661	1 175	1 861

18. The consumption of pig-lead and the excess in exports results in a **total consumption as follows**

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Metric Tons	21 668	18 295	18 317	17 886	19 284	19 633	18 774	21 375	20 975	22 760

There is also an excess in the exports of chemical products containing lead, but it is supposed that the statements of the Italian Official Statistics are not quite correct on this point.

Switzerland.

19. Consumption of Pig-lead.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports of pig-lead . .	2 036	2 011	1 535	2 029	2 566	2 835	3 540	2 805	3 351	3 594
Exports of pig-lead . .	114	70	123	192	81	195	99	105	181	124
Consumption of pig-lead .	1 922	1 941	1 412	1 837	2 485	2 640	3 441	2 700	3 170	3 470
Besides there were imported Lead rolled, sheets, pipes etc.. . . .	984	1 148	1 159	1 304	1 406	1 482	1 573	1 353	1 168	1 269
Exported lead rolled, sheets, pipes etc.	19	19	23	26	29	31	38	45	52	48

Belgium.

20. Consumption of Pig-lead.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of pig-lead.	10 100	12 000	14 120	15 573	17 222	17 023	19 330	15 727	16 365	19 500
Imports of pig-lead .	31 054	38 028	43 491	47 000	38 000	38 000	47 700	43 100	40 000	44 000
Total	41 154	50 028	57 611	62 573	55 222	55 023	67 030	58 827	56 365	63 500
Exports of pig-lead .	27 375	26 940	35 133	45 479	36 400	34 600	46 300	38 100	33 400	42 600
Consumption of pig-lead	13 779	23 088	22 478	17 094	18 800	20 400	20 700	20 700	23 000	20 900

The stocks at the works in Belgium have decreased in 1895 by about 3500 tons, so that the total-consumption for this year increases from 17 094 by 3500 = to about 20 600 tons.

Netherlands.

21. We estimate the consumption in this country to 5000 tons per year.
The official Dutch Statistics cannot in any way be used as a reliable basis.

Russia.

22. Consumption of Pig-lead.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of pig-lead .	884	844	743	412	262	450	241	322	*300	*300
Imports of pig-lead .	21 119	23 608	25 955	21 000	20 000	24 300	22 400	23 000	20 000	22 500
Consumption of pig-lead in round figures	22 000	24 500	26 700	21 400	20 300	24 750	22 650	23 300	20 300	22 800

(The export of pig-lead is, if any, entirely insignificant.)

23. Besides there were **imported**:

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Sheet-lead & other articles Metric Tons	3 760	4 284	4 800	4 100	5 500	2 800	3 150	3 300	2 800	2 200

so that the **Total consumption**

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
amounts in round figures to Metric Tons . . .	25 800	28 800	31 500	25 500	25 800	27 550	25 800	26 600	23 100	25 000

Various European Countries.

(Spain, Portugal, Scandinavia, Greece and other Balkan States.)

24. Consumption of Pig-lead.

Metric Tons.

Production:	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Spain 1) . .	153 300	157 100	159 300	154 500	168 600	171 700	180 500	162 900	154 500	149 500
Greece . .	14 400	12 800	12 700	16 800	14 700	16 000	19 200	18 400	16 800	17 700
Turkey . .	1 400	2 200	2 800	1 800	1 700	1 600	1 900	2 400	2 800	3 000
Scandinavia.				1 300	1 500	1 500	1 600	1 600	1 400	1 000
Production .	169 100	172 100	174 800	174 400	186 500	190 800	203 200	185 300	175 500	171 200
Imports of pig-lead . .	1 400	1 000	1 500	1 600	1 800	2 200	2 700	1 300	1 100	1 300
Total	170 500	173 100	176 300	176 000	188 300	193 000	205 900	186 600	176 600	172 500
Exports of pig-lead from Spain, Greece, Turkey, Sweden . .	167 800	171 400	174 800	174 400	186 200	190 700	202 200	184 500	174 600	170 900
Consumption of pig-lead in round figures	2 700	1 700	1 500	1 600	2 100	2 300	3 700	2 100	2 000	1 600

1) Here we insert only the export of lead (containing silver and not containing silver) from Spain, not taking any heed, therefore, of the quantity consumed in Spain, as we could not obtain any reliable figures with regard to the latter. The "Revista Minera" of Madrid estimates the quantity at abt 15,000 tons annually.

United States of America.

25. Consumption of Pig-lead.

Metric Tons.

Production	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
from domestic and foreign material 1) .	190 568	178 313	164 359	160 680	182 106	207 834	231 500	214 535	270 200	265 000
Of which from domestic-ores .	*166 236*	*151 677*	*146 389*	*142 298*	*158 479*	*179 369*	*207 271*	*196 938*	*251 000*	*241 000*
Imports of										
a) argentiferous lead	11 715	31 850	36 714	48 972	46 464	53 029	55 625	70 107	84 927	78 629
b) other lead	1 160	850	8 740	21 305	3 085	1 675	1 276	716		
Total	203 443	211 013	209 813	230 957	231 655	262 538	288 401	285 358	355 127	343 629
Exports of pig-lead . .	11 715	31 850	36 400	16 498	51 854	54 921	69 773	68 952	90 904	90 678
Consumption of pig-lead	191 728	179 163	173 413	214 459	179 801	207 617	218 628	216 406	264 223	252 951

1) Beginning with 1900 these figures do not however include the production from Mexican ores as we could not obtain sufficient data concerning the amount of the ores imported from Mexico. The lead contents of same is included in the figures of production and appears in the details of production for Mexico in 1900 and 1901, table 26.

For 1900 and 1901, however, the amount of silver lead imported from Canada into the U. S. A. is included in these figures. Reliable data are not to be obtained; for 1900 the quantity is being estimated at 10,000 tons. (See also remark 1 on table II, page 2.)

Production of Lead of the United States of America from Domestic Ores during 1825—1891.

According to Mr. Charles Kirchhoff in New-York. (Annual Reports of the United States Geological Survey.)

Metric Tons.

1825	1 400	1842	21 800	1855	14 400	1868	14 900	1881	106 500
1830	7 300	1843	22 800	1856	14 600	1869	15 900	1882	120 900
1831	6 800	1844	23 700	1857	14 400	1870	16 200	1883	131 000
1832	9 100	1845	27 300	1858	13 900	1871	18 200	1884	127 300
1833	10 000	1846	25 500	1859	14 900	1872	23 600	1885	117 800
1834	10 900	1847	25 500	1860	14 200	1873	38 700	1886	118 900
1835	11 800	1848	22 800	1861	12 800	1874	47 400	1887	132 600
1836	13 600	1849	21 400	1862	12 900	1875	54 300	1888	138 200
1837	12 300	1850	20 000	1863	13 500	1876	58 300	1889	142 300
1838	13 600	1851	16 800	1864	13 900	1877	74 500	1890	130 000
1839	16 000	1852	14 300	1865	13 400	1878	82 900	1891	162 000
1840	15 500	1853	15 300	1866	14 600	1879	84 400		
1841	18 700	1854	15 000	1867	13 800	1880	89 000		

Various Non-European Countries.

Australia, Mexico and Canada have to be considered here as producing and exporting countries, while South-America and Eastern-Asia have to be looked upon as importing countries.

The Australian and Asiatic demands are not considered here in as far as the same are covered by the Australian production.

26. Consumption of Pig-lead.

Metric Tons.

Production of pig-lead:	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
a) Australia [1]	54 000	58 000	50 000	38 000	30 000	22 000	50 000	68 000	67 000	72 000
b) Mexico [2] .	23 200	37 500	39 300	54 000	50 000	58 000	61 000	78 000	90 500	89 300
c) South-America and Eastern Asia [3]	—	—	—	—	600	2 000	1 300	2 200	3 000	*300
	77 200	95 500	89 300	92 000	80 600	82 000	112 300	148 200	160 500	161 600
+ Import . .	16 100	11 600	9 300	8 000	10 600	8 500	7 500	6 000	4 000	6 500
	93 300	107 100	98 600	100 000	91 200	90 500	119 800	154 200	164 500	168 100
Export . . .	77 200	95 500	89 300	92 000	80 600	82 000	112 300	148 200	160 500	161 600
Consumption of pig-lead .	16 100	11 600	9 300	8 000	10 600	8 500	7 500	6 000	4 000	6 500

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[1] These figures represent the amount of Australian Lead imported into Europe; as regards the export of lead from Australia into Asia, see remark 2 table II (page 2).

[2] Import of Mexican Lead into the U. S. A. and Europe. For 1900 and 1901 the respective figures include also the lead contents of the Mexican lead-ores imported into the U. S. A. (See also remark on table 25.)

[3] These figures only comprise the European import of lead from South America (Chile principally) and East Asia (principally East India and Hongkong.)

27. **The exports to various countries not specially named in the official trade-statistics** amounted to:

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Metric Tons . .	2800	3100	3000	2600	1500	900	1000	500	500	*500

These quantities have to be accounted for, when calculating the total consumption of pig-lead.

For want of reliable informations no figure can be fixed for 1901 and we therefore insert the figure of the previous year as an estimate.

28. We have summed up the countries appearing in the tables 26 and 27 under the heading **"All other countries"** in the General Summary respecting the Consumption of Lead (Table III) and we have stated their **consumption** to be

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Metric Tons . .	18900	14700	12300	10600	12100	9400	8500	6500	4500	7000

COPPER.

Germany.

29. Production of Copper-ores and Raw Copper and Consumption of Raw Copper.

Year	Production of Copper-ores	Production of Raw Copper from home and foreign Material	Imports of Raw Copper	Exports of Raw Copper	Consumption of Raw Copper
	Metric Tons	Metric Tons	Metric Tons	Metric Tons	Metric Tons
1884	593 300	18 113	13 819	6 906	25 026
1885	621 400	19 928	13 168	5 706	27 390
1886	495 700	19 314	11 913	6 510	24 717
1887	507 600	20 192	12 427	5 154	27 465
1888	530 900	21 017	8 082	4 530	24 569
1889	573 300	24 160	29 643	7 135	46 668
1890	596 100	24 427	31 408	8 428	47 407
1891	587 626	24 092	34 182	6 247	52 027
1892	567 629	24 781	32 498	6 598	50 681
1893	584 950	24 011	38 455	7 517	54 949
1894	588 195	25 722	37 032	6 609	56 145
1895	633 354	25 777	44 365	6 329	63 813
1896	717 346	29 319	56 115	5 996	79 438
1897	700 619	29 408	67 573	7 183	89 798
1898	702 781	30 695	73 291	6 972	97 014
1899	733 619	34 634	70 091	7 061	97 664
1900	747 749	30 929	83 503	5 505	108 927
1901	777 339	31 376	58 620	5 091	84 905

NB. The imports and exports of copper-ores which were given jointly with lead-ores till 1895 inclusive, are separately recorded in the German Statistics since 1896 and amounted to:

1896: Imports 26 599; Exports 29 133.
1897: › 1 888; › 24 711.
1898: › 1 910; › 22 365.
1899: › 4 187; › 33 656.
1900: › 10 930; › 25 686.

The considerable amount of the imports in 1896 is, according to a communication from the Imperial Statistical Office, explained by the fact that a parcel of 22 570 tons from Austria-Hungary was erroneously entered as Copper-ores, being in fact iron-ores, with an insignificant percentage of copper. Also, another parcel of 699 tons from the Hamburg Free-port, presumably precipitate of copper, met with a similar fate and should have properly appeared under the heading of Raw Copper.

30. Imports and Exports of Copper and Brass-Manufactures (calculated on their copper-contents).

Metric Tons.

	A. Imports.										B. Exports.									
	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Copper in rods and sheets not plated	694	448	495	426	400	400	450	610	906	726	4 507	4 890	5 007	4 700	5 406	5 718	5 369	4 871	5 273	4 952
Copper etc. wire, not plated	218	151	131	171	127	80	55	79	77	91	2 565	3 053	3 433	3 975	5 910	6 176	5 930	7 579	9 605	7 833
Copper etc. in sheets, plated	17	10	7	11	9	31	35	49	60	48	20	14	13	13	30	11	30	19	12	10
Copper etc. wire, plated											258	317	249	286	250	234	233	226	201	194
Wire work											214	232	239	257	270	273	275	305	330	358
Rough coppersmith etc. articles	558	527	453	434	464	528	463	442	356	351	1 902	2 050	2 538	2 643	2 650	2 697	2 989	3 163	3 176	3 088
Total I	1 487	1 136	1 086	1 042	1 000	1 039	1 003	1 180	1 399	1 216	9 466	10 556	11 479	11 874	14 516	15 109	14 826	16 163	18 597	16 435
Copper and Brass-Waste, Coins	778	941	860	1 192	2 219	2 939	3 304	3 494	3 222	3 175	1 120	1 144	1 318	1 495	2 078	1 515	2 545	3 652	3 819	3 627
Brass and Tombac, rough or broken	773	782	866	742	745	1 136	1 213	1 467	1 550	1 196	1 386	1 632	1 539	2 108	3 034	2 950	3 946	3 541	3 095	3 509
Total II	1 551	1 723	1 726	1 934	2 964	4 075	4 517	4 961	4 772	4 371	2 506	2 776	2 857	3 603	5 112	4 465	6 491	7 193	6 914	7 136

30a. Imports and Exports of Goods consisting partly of copper.

Metric Tons.

	A. Imports.										B. Exports.									
	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Telegraph-cables etc. . .	43	47	41	100	129	74	25	19	50	108	1 526	1 957	2 193	3 713	7 631	8 119	10 432	11 418	15 444	13 902
Artillery fuses, cartridges, percussion-caps . . .	71	86	86	129	117	84	83	122	148	87	2 874	3 683	3 332	4 450	4 156	2 712	3 289	2 683	1 731	1 880
Fine copper and brass goods etc.	555	560	565	625	797	846	881	963	1 007	846	3 234	3 860	4 117	4 912	5 960	5 583	6 472	7 561	8 888	7 852
Toys and other copper and brass goods, nickled . .	292	297	294	301	335	417	459	495	478	487	1 458	1 588	1 529	1 882	1 896	1 858	2 002	2 264	2 320	2 212
Telegraphic appliances etc.	7	2	15	9	6	8	7	10	18	12	197	223	173	210	279	295	229	316	428	308

31. We take for the calculation of the **total consumption** only the articles entered sub I & II into account.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Consumption of Raw Copper	50 681	54 949	56 145	63 813	79 438	89 798	97 014	97 664	108 927	84 905
Imports of Raw Copper (I) .	1 487	1 136	1 086	1 042	1 000	1 039	1 003	1 180	1 399	1 216
Imports of Brass (II) . . .	1 551	1 723	1 726	1 934	2 964	4 075	4 517	4 961	4 772	4 371
Total . .	53 719	57 808	58 957	66 789	83 402	94 912	102 534	103 805	115 098	90 492
less: Export of Copper-Goods (table 30, Total I). . . .	9 466	10 556	11 479	11 874	14 516	15 109	14 826	16 163	18 597	16 435
Exports of Brass (table 30 Total II)	2 506	2 776	2 857	3 603	5 112	4 465	6 491	7 193	6 914	7 136
Total consumption . .	41 747	44 476	44 621	51 312	63 774	75 338	81 217	80 449	89 587	66 921

32. The consumption of **Sulphate of Copper** has to be added as follows:

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Sulphate of Copper	4 024	4 773	4 809	4 638	6 838	6 400	4 838	5 700	5 300	5 500
Imports of Sulphate of Copper	432	435	679	855	968	1 872	1 947	1 384	2 369	1 211
Total . . .	4 456	5 208	5 488	5 493	7 806	8 272	6 785	7 084	7 669	6 711
Exports of Sulphate of Copper	2 144	2 182	2 024	1 911	3 977	3 359	1 603	3 130	1 881	1 941
Consumpt^{n} of Sulphate of Copper	2 312	3 026	3 464	3 582	3 829	4 913	5 182	3 954	5 788	4 770
reduced to Fine Copper . . .	578	757	866	895	957	1 228	1 295	988	1 447	1 192

Great Britain.

33. Consumption of Raw Copper.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Raw Copper from domestic & foreign smelting-material.	100 573	90 674	69 611	78 246	76 000	75 000	69 500	79 100	80 000	80 000
of which from domestic-material	*502*	*431*	*452*	*586*	*563*	*525*	*650*	*650*	*777*	**600*
Imports of Raw Copper	31 165	38 385	56 182	42 703	61 400	61 578	69 440	59 992	72 023	68 763
Total .	131 738	129 059	125 793	120 949	137 400	136 578	138 940	139 092	152 023	148 763
Exports of Raw Copper	50 459	37 950	25 132	37 473	33 153	31 315	40 281	56 788	37 297	50 397
Consumption without account^{s} for the Public Stocks	81 279	91 109	100 661	83 476	104 247	105 263	98 659	82 304	114 726	98 366
+ Increase or — Decrease relatively of the Public Stocks	— 3 863	+ 7 787	— 9 628	+ 8 075	+12 427	+ 4 268	+ 5 714	+ 4 224	—5 934	+6 877
Consumpt^{n} of Raw Copper accounting for the Public Stocks . .	77 416	98 896	91 033	91 551	116 674	109 531	104 373	86 528	108 782	105 243

24. Imports and Exports of Copper and Brass-articles.

Metric Tons.

	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] manufactured [illegible] used [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] manufactured [illegible] used [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] Excess of Exports	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible] Total consumption of Copper [illegible]

Metric Tons.

	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

France.

37. Consumption of Raw Copper.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production. . . .	6 400	6 600	6 400	8 245	6 544	7 400	7 834	6 600	6 400	*6 500
Imports of Raw Copper (including Brass)	24 154	26 060	26 756	32 656	40 136	48 028	45 575	49 515	51 962	41 221
Total . .	30 554	32 660	33 156	40 901	46 680	55 428	53 409	56 115	58 362	47 721
less exports of Raw Copper (including Brass)	2 116	2 204	2 467	3 163	3 456	3 559	4 044	6 882	5 736	5 121
Consumption without accounting for the Public Stocks . .	28 438	30 456	30 689	37 738	43 224	51 869	49 365	49 233	52 626	42 600
+ Decrease of the Public Stocks . .	4 268	3 008	1 914	436	—	—	187	—	—	—
Consumption of Raw Copper accounting for the Public Stocks	32 706	33 464	32 603	38 174	43 224	51 869	49 552	49 233	52 626	42 600
Position of the Public Stocks according to the French Official Statistics on the 31. December	5 545	2 537	623	187	187	187	—	—	—	—

38. Imports and Exports of Articles of Copper and Brass as well as Cuttings.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports	5 133	5 240	4 964	6 909	8 258	7 941	9 103	10 749	12 020	7 900
Exports	12 259	10 108	8 713	12 695	16 383	16 204	18 220	18 055	17 148	18 723
i. e. Excess in Exports . .	7 126	4 868	3 749	5 786	8 125	8 263	9 117	7 306	5 128	10 823

39. The consumption of copper and the excess in export of articles of copper results in the following **Total consumption of Copper**:

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Consumption of Raw Copper	32 706	33 464	32 603	38 174	43 224	51 869	49 552	49 233	52 626	42 600
— Excess in Exports of Copper-Goods	7 126	4 868	3 749	5 786	8 125	8 263	9 117	7 306	5 128	10 823
Total Consumption . . .	25 580	28 596	28 854	32 388	35 099	43 606	40 435	41 927	47 498	31 777

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
40. Imports of Sulphate of Copper.	16 380	17 713	18 611	23 184	32 112	25 612	24 562	19 120	20 082	13 800
Exports	471	523	820	1 078	1 391	1 160	1 252	1 118	1 595	2 100
i. e. Excess in Exports	15 909	17 190	17 791	22 106	30 721	24 452	23 310	18 002	18 487	11 700
calculated in Fine Copper	3 977	4 297	4 448	5 527	7 680	6 113	5 828	4 500	4 622	2 925

Austria-Hungary.

41. Consumption of Raw Copper.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production in Austria-Hungary & Bosnia	1 295	1 396	1 726	1 276	1 366	1 426	1 343	1 479	1 200	1 350
Imports of Raw Copper includg old Copper .	8 644	11 822	13 383	11 747	13 666	15 926	17 442	16 185	18 970	17 433
Total . .	9 939	13 218	15 109	13 023	15 032	17 352	18 785	17 664	20 170	18 783
Exports of Raw Copper includg old Copper .	342	434	255	151	228	159	173	534	471	425
Consumption of Raw Copper .	9 597	12 784	14 854	12 872	14 804	17 193	18 612	17 130	19 699	18 358

42. Imports and Exports of Copper and Brass-articles, calculated in Fine Copper.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports of Copper-goods	198	139	120	119	151	119	185	188	146	112
Imports of Brass, Packfong and Tombac, raw and manufactured	1 826	1 878	2 072	2 486	2 745	2 420	2 905	2 484	2 400	3 200
Total	2 024	2 017	2 192	2 605	2 896	2 539	3 090	2 672	2 546	3 312
— Exports of Copper-goods	255	260	482	342	209	192	278	313	213	347
Exports of Brass, Packfong and Tombac. raw and manufactured	2 053	1 886	2 017	1 972	2 339	2 556	3 080	2 958	3 240	3 200
Total	2 308	2 146	2 499	2 314	2 548	2 748	3 358	3 271	3 453	3 547
i. e. Excess in imports	—	—	—	291	348	—	—	—	—	—
» in exports	284	129	307	—	—	209	268	599	907	235

43. The Consumption of Raw Copper and the excess in imports and exports relatively results in the following **Total Consumption of Copper**:

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Consumption of Raw Copper	9 597	12 784	14 854	12 872	14 804	17 193	18 612	17 130	19 699	18 358
+ excess in imports of goods. . . .				+ 291	+ 348					
— excess in exports of goods. . . .	— 284	— 129	— 307			— 209	— 268	— 599	— 907	— 235
Total consumption . .	9 313	12 655	14 547	13 163	15 152	16 984	18 344	16 531	18 792	18 123

44. No notice has been taken of the imports and exports of Sulphate of Copper. It amounted (in metric tons) to

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Sulphate of Copper*) .	—	—	—	—	—	—	—	8 300	10 400	9 500
Imports of Sulphate of Copper . . .	648	1 863	1 916	895	2 084	6 823	5 270	2 346	3 516	2 822
Total	—	—	—	—	—	—	—	10 646	13 976	12 322
Exports of Sulphate of Copper . . .	22	29	49	162	47	15	30	67	57	22
Consumption of Sulphate of Copper .	—	—	—	—	—	—	—	10 579	13 859	12 300
calculated in Fine Copper	—	—	—	—	—	—	—	2 645	3 465	3 075

*) Of the production of sulphate of copper in Austria-Hungary no reliable official figures are to be obtained. Since 1899 we find the production by enquiry with the principal manufacturers.

Italy.

45. Consumption of Raw Copper.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Raw Copper	2 564	2 371	2 670	2 375	2 842	2 980	3 230	3 032	2 797	*3 000
Imports of Raw Copper and Brass	2 139	3 043	3 706	4 350	4 509	5 032	5 028	6 006	6 224	5 982
Total . .	4 703	5 414	6 376	6 725	7 351	8 012	8 258	9 038	9 021	8 982
Exports of Raw Copper and Brass	168	157	32	84	383	222	462	1 355	676	100
Consumption of Raw Copper including Brass	4 535	5 257	6 344	6 641	6 968	7 790	7 796	7 683	8 345	8 882

46. If the imports and exports of Copper and Brass-goods are added, the following figures of the **Total-Consumption of Copper result:**

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Consumption of Raw Copper and Brass . .	4 535	5 257	6 344	6 641	6 968	7 790	7 796	7 683	8 345	8 882
Imports of Copper and Brass-goods	2 278	2 271	2 740	2 352	2 444	2 967	2 405	2 486	3 027	2 677
Total . .	6 813	7 528	9 084	8 993	9 412	10 757	10 201	10 169	11 372	11 559
Exports of Copper and Brass-goods	252	162	118	187	280	419	395	380	533	559
Total Consumption . . .	6 561	7 366	8 966	8 806	9 132	10 338	9 806	9 789	10 839	11 000

47. The consumption of Sulphate of Copper cannot be deduced, as the Official Italian Statistics record till 1895 inclusive the imports and exports of Sulphate of Copper and Sulphate of Zinc jointly, and also since 1896 the imports and exports of Sulphate of Copper and other Sulphate-combinations.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Sulphate of Copper	?	881	2 981	3 151	4 756	5 337	6 164	7 795	13 191	not yet ascertained
Imports of Sulphate of Copper and Zinc or mixed Sulphate . . .	3 453	9 026	17 467	14 112	24 255	28 879	25 560	27 408	32 127	32 058
Exports of Sulphate of Copper and Zinc or mixed Sulphate . . .	46	17	18	12	71	18	25	20	60	20

Russia.

48. Consumption of Raw Copper.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production	4 978	5 100	5 409	5 854	5 832	6 941	7 291	7 533	8 100	*8 100
Imports of Raw Copper	6 568	8 756	6 666	8 100	12 433	12 507	10 200	6 300	6 100	6 000
Total . .	11 546	13 856	12 075	13 954	18 265	19 448	17 491	13 833	14 200	14 100
Exports of Raw Copper	(none).									
Consumption in round figures	11 500	13 900	12 100	14 000	18 300	19 500	17 500	13 800	14 200	14 100

The figures concerning the imports for 1892 to 1894 inclusive do not comprise the quantities which have been shipped directly from America to Russia, as we have no knowledge of the same.

All other European Countries.

(Sweden, Norway, Denmark, Switzerland, Spain, Portugal and the Balkan States.)

49. Consumption of Raw Copper.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production . .	1 400	1 600	1 600	1 500	1 700	1 700	1 500	2 300	2 500	3 200
Imports . . .	1 100	1 400	1 200	1 400	1 400	1 500	1 700	1 800	1 600	2 000
Total . .	2 500	3 000	2 800	2 900	3 100	3 200	3 200	4 100	4 100	5 200
Exports . . .	800	1 000	700	1 100	800	1 200	1 500	2 100	2 100	2 600
Consumption . .	1 700	2 000	2 100	1 800	2 300	2 000	1 700	2 000	2 000	2 600

United States of America.

50. Consumption of Raw Copper.

(According to the statements of the "Mineral Industry" and the Official American Trade-Statistics.)

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production from domestic and foreign material .	151 163	152 272	164 095	178 341	219 328	230 185	250 000	273 000	283 000	*297 900
of which from domestic material. . .	*146 536*	*148 768*	*160 339*	*175 285*	*212 100*	*225 510*	*239 885*	*259 355*	*267 389*	**269 500*
Imports of RawCopper includ^s old Copper .	784	2 512	1 563	4 253	5 186	7 543	24 646	32 516	31 303	33 600
Total .	151 947	154 784	165 658	182 594	224 514	237 728	274 646	305 516	314 303	331 500
Exports of RawCopper and Copper in Ores and Mattes .	43 004	87 492	77 089	63 759	128 548	131 730	150 721	116 629	160 403	110 500
Consumption without accounting for the Public Stocks .	108 943	67 292	88 569	118 835	95 966	105 998	123 925	188 887	153 900	221 000

50 a. The copper contents of the sulphate of copper produced amounted to:

	1894	1895	1896	1897	1898	1899	1900
Metric Tons	5670	5443	5525	5898	6269	7700	8727

Production of Copper of the United States of America from Domestic Material from 1845 to 1891.

According to Mr. Charles Kirchhoff, New-York. (Annual Reports of the United States Geological Survey.)

English Tons.

1845	100
1846	150
1847	300
1848	500
1849	700
1850	650
1851	900
1852	1 100
1853	2 000
1854	2 250
1855	3 000
1856	4 000
1857	4 800
1858	5 500
1859	6 300
1860	7 200
1861	7 500
1862	9 000
1863	8 500
1864	8 000
1865	8 500
1866	8 900
1867	10 000
1868	11 600
1869	12 500
1870	12 600
1871	13 000
1872	12 500
1873	15 500
1874	17 500
1875	18 000
1876	19 000
1877	21 000
1878	21 500
1879	23 000
1880	27 000
1881	32 000
1882	40 467
1883	51 574
1884	64 708
1885	74 052
1886	70 430
1887	81 017
1888	101 054
1889	101 239
1890	115 966
1891	126 839

SPELTER.

Germany.

51. Production, Imports, Exports and Consumption of Zinc-ores and Spelter from 1883 to 1901.

Metric Tons.

According to the quarterly Publications of Statistics of the German Empire.

A. Zinc-ores.

Period	Production	Imports	Exports	Consumption
1883	677 794	19 651	11 923	685 522
1884	632 040	17 078	12 217	636 901
1885	680 654	27 180	13 429	694 405
1886	705 177	19 717	14 414	710 480
1887	900 712	11 232	20 971	890 973
1888	667 761	8 901	23 683	652 979
1889	708 829	26 812	20 957	714 684
1890	759 437	38 098	16 542	780 993
1891	793 544	37 762	22 123	809 183
1892	800 167	41 558	24 475	817 250
1893	787 910	23 883	25 059	786 734
1894	728 616	14 712	35 682	707 646
1895	706 423	25 818	31 301	700 851
1896	729 942	21 493	37 959	713 476
1897	663 850	24 735	30 047	658 538
1898	641 706	48 050	30 408	689 756
1899	664 536	57 880	25 192	697 224
1900	639 215	68 982	34 941	673 256
1901	647 496	75 533	41 002	682 027

B. Spelter.

Period	Production	Imports	Exports	Consumption
1883	116 854	4 474	54 939	66 389
1884	125 276	4 519	56 995	72 800
1885	129 098	4 000	68 432	64 666
1886	130 854	4 584	65 372	70 066
1887	130 494	4 585	65 258	69 821
1888	133 224	6 063	59 114	80 173
1889	135 974	7 821	59 981	83 814
1890	139 266	8 625	57 499	90 392
1891	139 353	7 969	57 853	89 469
1892	139 938	13 021	53 287	99 672
1893	142 956	13 211	62 592	93 575
1894	143 577	17 988	61 799	99 766
1895	150 286	17 542	56 933	110 895
1896	153 100	15 668	55 937	112 831
1897	150 739	18 925	49 600	120 064
1898	154 867	22 771	49 471	128 167
1899	153 155	22 171	45 031	130 295
1900	153 350	22 758	50 302	125 806
1901	166 283	20 180	53 312	133 151

Until 1895 the imports and exports of old spelter are contained in the figures above, from 1896 the German Official Statistics give "old and waste spelter" separately. It amounted

in	**1896**	**1897**	**1898**	**1899**	**1900**	**1901**
Imports:	674	808	1345	1520	1505	1070
Exports:	2145	1740	1853	1303	1596	1178

52. Imports and Exports of manufactured Spelter and Spelter contained in Brass-goods.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Import of sheet Zinc . .	48	74	274	128	180	130	53	95	145	306
Imports of manufactured Spelter	136	150	153	155	191	203	209	188	179	188
Import of Spelter contained in Brass	655	740	739	829	1 270	1 747	1 936	2 126	2 045	1 874
Total of Imports	849	964	1 166	1 112	1 641	2 080	2 198	2 409	2 369	2 368
Export of rolling Spelter	16 304	17 459	16 038	15 921	16 242	17 453	14 477	18 281	16 709	16 517
Export of manufactured Spelter	1 506	1 710	1 628	1 856	1 923	1 860	1 908	2 125	2 346	2 003
Export of Spelter in Brass	1 074	1 189	1 224	1 544	2 191	1 913	2 782	3 083	2 963	3 058
Total of Exports	18 884	20 358	18 890	19 321	20 356	21 226	19 167	23 489	22 018	21 578
i. e. Excess in Exports .	18 035	19 394	17 724	18 209	18 715	19 146	16 969	21 080	19 649	19 210

53. The consumption of Spelter and the excess in exports of manufactured Spelter results in the following **Total Consumption of Spelter:**

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Consumption of Spelter	99 672	93 575	99 766	110 895	112 831	120 064	128 167	130 295	125 806	133 151
Excess in Export of manufactured Spelter	18 035	19 394	17 724	18 209	18 715	19 146	16 969	21 080	19 649	19 210
Total Consumption of Spelter	81 637	74 181	82 042	92 686	94 116	100 918	111 198	109 215	106 157	113 941

54. In making these calculations no attention has been paid to spelter contained in Chemical Products.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
The Imports of Zinc in Chemical Products amounted to metric tons . . .	2 298	2 009	1 906	2 181	2 175	2 650	2 741	3 167	3 660	2 745
The Exports do. do.. .	8 012	9 329	10 921	11 743	12 808	13 306	14 063	12 332	12 430	14 131
i. e. Excess in exports. .	5 714	7 320	9 015	9 562	10 633	10 656	11 322	9 165	8 770	11 386

The above total consumption of Spelter is thus reduced by the amount of the excess in exports.

Great-Britain.

55. Consumption of Spelter.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Spelter from domestic and foreign material . . .	30 794	28 829	32 577	29 965	25 277	23 927	28 386	32 223	30 307	29 657
of which from domestic ores	*9 497*	*9 432*	*8 260*	*6 760*	*7 223*	*7 161*	*8 712*	*8 837*	*9 211*	*still unknown*
Imports of Spelter	53 638	57 836	53 743	63 525	77 861	71 002	78 711	71 067	70 649	69 548
Total .	84 432	86 665	86 320	93 490	103 138	94 929	107 097	103 290	100 956	99 205
Exports of Spelter	10 885	11 623	10 816	9 662	10 487	8 342	8 450	6 520	8 230	8 785
Consumption of Spelter	73 547	75 042	75 504	83 828	92 651	86 587	98 647	96 770	92 726	90 420

56. Imports and Exports of Zinc-wares and Spelter in Brass-goods.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports of manufactured Spelter . .	19 260	18 716	18 841	19 670	21 339	21 395	21 612	21 526	22 105	21 683
Imports of Spelter contained in Brass-goods	228	284	339	491	622	644	707	595	700	740
Total of Imports . .	19 488	19 000	19 180	20 161	21 961	22 039	22 319	22 121	22 805	22 423
Exports of manufactured Spelter . .	1 387	1 517	1 388	1 489	1 518	1 650	1 889	1 833	1 675	1 709
Exports of Spelter contained in Brass-goods	7 645	7 679	8 081	7 712	6 408	6 201	5 804	4 536	5 428	5 500
Total of Exports . .	9 032	9 196	9 469	9 201	7 926	7 851	7 693	6 369	7 103	7 209
i. e. Excess in Imports	10 456	9 804	9 711	10 960	14 035	14 188	14 626	15 752	15 702	15 214

57. The consumption of Spelter and the excess in imports of manufactured Spelter results in the following **Total Consumption of Spelter:**

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Consumption of Spelter	73 547	75 042	75 504	83 828	92 651	86 587	98 647	96 770	92 726	90 420
Excess of Imports in manufactured Spelter	10 456	9 804	9 711	10 960	14 035	14 188	14 626	15 752	15 702	15 214
Total Consumption of Spelter	84 003	84 846	85 215	94 788	106 686	100 775	113 273	112 522	108 428	105 634

France.

58. Consumption of Spelter.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Spelter . . .	20 809	22 439	23 090	26 860	33 980	37 239	37 932	39 305	36 325	34 400
Imports of Spelter . . .	29 741	33 090	33 256	25 051	33 021	30 201	32 140	25 094	32 899	29 642
Total .	50 550	55 529	56 346	51 911	67 001	67 440	70 072	64 399	69 224	64 042
Exports of Spelter . . .	1 993	3 283	3 419	2 644	4 438	3 875	8 816	7 403	6 933	8 452
Consumption of Spelter . . .	48 557	52 246	52 927	49 267	62 563	63 565	61 256	56 996	62 291	55 590

59. Imports and Exports of manufactured Spelter.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports of sheet zinc . . .	143	811	396	601	438	1 011	202	422	245	149
Imports of sundry manufactured spelter	1 051	1 354	1 765	1 616	1 717	1 783	1 596	1 825	2 133	1 583
Total of Imports	1 194	2 165	2 161	2 217	2 155	2 794	1 798	2 247	2 378	1 732
Exports of sheet zinc . . .	3 665	3 965	3 176	3 205	6 048	7 102	8 379	7 556	5 779	6 570
Exports of sundry manufactured spelter	1 612	1 819	913	967	868	1 517	1 260	1 740	1 157	1 000
Total of Exports	5 277	5 784	4 089	4 172	6 916	8 619	9 639	9 296	6 936	7 570
i. e. Excess of Exports . . .	4 083	3 619	1 928	1 955	4 761	5 825	7 841	7 049	4 558	5 838

60. The consumption of Spelter and the excess in exports of manufactured Spelter result in the following **Total Consumption of Spelter**:

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Consumption of Spelter . . .	48 557	52 246	52 927	49 267	62 563	63 565	61 256	56 996	62 291	55 590
Excess in exports of manufactured Spelter	4 083	3 619	1 928	1 955	4 761	5 825	7 841	7 049	4 558	5 838
Total Consumption of Spelter	44 474	48 627	50 999	47 312	57 802	57 740	53 415	49 947	57 733	49 752

61. Of Chemical Produce containing Zinc there were

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
imported	660	620	500	603	705	838	951	1 337	1 300	950
exported	2 620	1 740	2 120	1 181	758	1 031	1 025	1 435	1 550	1 300
i. e. Excess of exports . . .	1 960	1 120	1 620	578	53	193	74	98	250	350

The total consumption of Spelter is diminished by the above quantities.

Austria-Hungary.

62. Consumption of Spelter.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Spelter . . .	5 100	7 681	8 715	8 488	9 403	8 314	7 229	7 305	7 026	7 665
Imports of Spelter (incl. old zinc)	14 010	15 083	15 314	17 156	17 539	16 599	17 471	15 225	17 844	16 921
Total .	19 110	22 764	24 029	25 644	26 942	24 913	24 700	22 530	24 870	24 586
Exports of Spelter (incl. old zinc)	591	718	447	504	1 256	770	1 184	1 614	1 088	1 374
Consumption of Spelter . . .	18 519	22 046	23 582	25 140	25 686	24 143	23 516	20 916	23 782	23 212

63. Imports and Exports of manufactured Spelter.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports of Zinc-wares . .	713	453	979	611	552	356	453	481	666	579
Imports of Spelter in Brass and Tombac-goods . .	782	805	892	1 066	1 176	1 038	1 244	1 065	1 030	1 375
Total of imports	1 495	1 258	1 871	1 677	1 728	1 394	1 697	1 546	1 696	1 954
Exports of Zinc-wares . .	851	1 226	1 201	1 158	1 139	993	757	1 313	619	818
Exports of Spelter in Brass and Tombac-goods . .	880	809	862	840	1 000	1 096	1 287	1 269	1 388	1 370
Total of exports	1 731	2 035	2 063	1 998	2 139	2 089	2 044	2 582	2 007	2 183
i. e. Excess in imports .	—	—	—	—	—	—	—	—	—	—
Excess in exports .	236	777	192	321	411	695	347	1 036	311	229

64. The consumption of Spelter and the excess in exports or imports relatively of Zinc-wares results in the following **Total Consumption of Spelter:**

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Consumption of raw spelter .	18 519	22 046	23 582	25 140	25 686	24 143	23 516	20 916	23 782	23 212
+ Excess in imports — resp. — excess in exports of spelter and zinc-wares in Brass and Tombac-goods	— 236	— 777	— 192	— 321	— 411	— 695	— 347	— 1 036	— 311	— 229
Total of spelter consumption .	18 283	21 269	23 390	24 819	25 275	23 448	23 169	19 880	23 471	22 983

65. Of chemical products containing Zinc there were

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
imported (metric Tons) .	319	622	532	440	525	502	581	611	720	418
exported » » .	1 276	1 783	1 387	1 466	1 640	1 467	1 194	929	1 477	2 284
i. e. Excess of exports .	957	1 161	855	1 026	1 115	965	613	318	757	1 866

The above calculated total consumption of spelter is diminished by above figures.

Italy.

66. Consumption of Spelter.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports of Spelter . .	1 583	1 682	2 230	2 378	2 596	3 278	2 813	3 498	3 627	3 991
Exports of Spelter . .	8	—	—	4	33	309	156	227	359	349
Consumption of Spelter .	1 575	1 682	2 230	2 374	2 563	2 969	2 657	3 271	3 268	3 642
Metallic Zinc has also been smelted in Italy (Sardinia) since 1900 the amount being about .									60	155
so that the consumption of spelter is increased to									3 328	3 797

67. If the imports and exports of manufactured spelter are taken into account the following **Total Consumption of spelter results:**

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Consumption of Spelter .	1 575	1 682	2 230	2 374	2 563	2 969	2 657	3 271	3 328	3 797
Imports of manufactured Spelter	3 136	3 029	3 248	3 137	3 482	3 556	3 200	3 221	3 543	4 079
Total .	4 711	4 711	5 478	5 511	6 045	6 525	5 857	6 492	6 871	7 876
Exports of manufactured Spelter	1	7	6	9	8	63	16	21	24	17
Total consumption of Spelter	4 710	4 704	5 472	5 502	6 037	6 462	5 841	6 471	6 847	7 859

Belgium.

68. Consumption of Spelter.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Spelter . .	87 050	90 676	92 813	105 853	110 920	114 650	118 085	122 000	120 000	125 000
Imports of Spelter . .	3 033	4 956	8 354	4 455	10 000	5 000	6 700	4 200	3 000	*4 000
Total .	90 083	95 632	101 167	110 308	120 920	119 650	124 785	126 200	123 000	129 000
Exports of Spelter . .	*55 300	*60 900	*60 600	*72 000	*82 000	*81 000	*85 000	*80 000	*84 000	*91 000
Consumption of Spelter Total in round figures	34 783	34 732	40 567	38 308	38 920	38 650	39 785	46 200	39 000	38 000

69. In order to obtain the **total consumption of Spelter**, one has to deduct from these quantities the exports of sheet-zinc, which, however, we can only calculate by estimates:

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Exports of sheet-zinc . . .	17 000	18 000	18 000	19 000	20 000	21 000	20 000	20 000	21 000	22 000

69a. According to the Official Belgian Statistics the **production of sheet-zinc** amounted to:

Metric Tons.

1895	1896	1897	1898	1899	1900	1901
34 081	26 238	37 011	35 587	84 289	38 825	not known yet.

Netherlands.

70. We estimate the **Consumption of Spelter** to about 3700 Metric Tons per Year on an average for the last few years.

Spain.

71. Consumption of Spelter.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Spelter and sheet-zinc . .	5925	6000	5700	5872	6259	6329	6128	6328	5785	5632
Export of Spelter and sheet-zinc	2762	2500	2680	1367	3561	2171	4553	2701	2081	2392
Consumption of Spelter	3163	3500	3020	4505	2698	4158	1575	3627	3704	3240

According to the reports of the "Inspeccion general de Mineria" the following quantities of **sheet-zinc** have been manufactured:

1896	1897	1898	1899	1900
2 648 t	2 337 t	1 731 t	2 084 t	2 756 t

Russia.

72. Consumption of Spelter.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Spelter	4338	4600	5100	5040	6263	5853	5665	6324	5968	6030
Imports of Spelter .	5100	5000	5700	6630	5650	7800	9000	9300	8700	11600
Consumption of Spelter	9438	9600	10800	11670	11913	13653	14665	15624	14668	17630

73. In order to calculate the **Total Consumption of Spelter**, we have still to add the imports of sheet-zinc, which amounted.

Metric Tons.

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
to about	100	400	600	400	300	350	250	540	630	250

so that the following total consumption would result:

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
in round figures and metric Tons	9 500	10 000	11 400	12 100	12 200	14 000	14 900	16 200	15 300	17 900

United States of America.

74. Consumption of Spelter.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production of Spelter . .	78 944	72 166	65 439	79 457	74 275	89 618	104 033	116 700	112 234	124 810
Imports of Spelter and old Spelter	187	194	232	392	389	1 164	1 248	1 359	916	353
Total .	79 131	72 360	65 671	79 849	74 664	90 782	105 281	118 059	113 150	125 163
Exports of Spelter (including sheet-zinc) .	5 666	3 302	1 643	1 425	9 237	13 004	9 570	6 163	20 407	3 080
Consumption of Spelter .	73 465	69 058	64 028	78 424	65 427	77 778	95 711	111 896	92 743	122 083

74a. The **American Production of Spelter** divides itself between the leading Spelter producing States as follows:

Metric Tons.

States:	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Illinois	28 700	26 300	24 500	27 700	29 500	33 000	38 300	40 900	32 100	38 300
Kansas	22 500	20 600	21 200	23 200	21 800	30 300	38 600	48 600	56 700	69 300
Missouri	14 700	12 500	10 900	14 500	12 700	16 600	17 700	16 600	13 400	8 200
Indiana	100	700	2 000	3 400	1 450	1 400	2 400	2 600	2 600	2 100
Eastern & Southern States	12 100	10 900	6 800	10 700	8 800	8 300	6 900	8 000	7 500	7 000
Total .	78 100	71 000	65 400	79 500	74 250	89 600	103 900	116 700	112 300	124 900

75. There are to be added to the total consumption those quantities which were, according to the various trade-statistics, exported from England, Germany, France and Austria-Hungary **to countries not especially specified i. e. European, non-European and various countries not detailed in the Statistics.**

The exports amounted in round figures to:

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
1. European Countries	1 100	1 100	800	1 300	1 300	1 500	1 700	1 900	2 200	—
2. non European Countries	8 000	11 100	6 500	5 100	5 300	5 000	4 400	4 600	5 300	—
3. Countries not specified	400	900	600	700	1 000	500	400	400	450	—
Total . .	9 500	13 100	7 900	7 100	7 600	7 000	6 500	6 900	7 950	
round figures . . .	9 500	13 000	8 000	7 000	7 600	7 000	6 500	7 000	8 000	* 8000

Note: Amongst the European countries rank Denmark, Sweden, Norway, Switzerland, Spain. Balkan States and amongst the non-European countries principally Eastern Asia and Australia.

TIN.

Germany.

76. Consumption of Tin from 1885 to 1901.

Metric Tons.

Year	Production	Imports	Exports	Consumption
1885	107	6 108	476	5 739
1886	79	6 868	479	6 468
1887	66	7 176	430	6 812
1888	84	8 163	515	7 732
1889	63	9 191	317	8 937
1890	64	9 013	573	8 504
1891	287	9 081	410	8 958
1892	684	8 765	566	8 883
1893	951	10 538	565	10 924
1894	896	10 775	613	11 058
1895	884	10 581	700	10 765
1896	827	13 798	868	13 757
1897	929	12 395	861	12 463
1898	1003	14 623	874	14 752
1899	1481	12 253	1121	12 613
1900	2031	12 454	1626	12 859
1901	1464	12 910	1683	12 691

77. Imports and Exports of Tin-goods and Tin-plate for the last 10 years.

Metric Tons.

A. Imports.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Tin rolled, polished, nickelled and enamelled	7	6	33	3	18	1	2	1	2	1
Tin goods rough, not enamelled Tin-wire	9	9	10	13	8	8	8	21	12	11
Tin goods fine, enamelled	68	69	64	79	75	75	82	83	115	93
Tin Toys	1	1	2	1	1	1	1	1	1	1
Tin Plate	1 234	1 227	2 041	1 440	10 417	11 560	10 888	23 835	18 158	9 949

B. Exports.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Tin rolled, polished, nickelled and enamelled	33	50	38	28	36	48	32	23	25	21
Tin goods rough, not enamelled Tin-wire	143	193	224	249	310	284	220	221	252	250
Tin goods fine, enamelled	714	731	819	975	1 010	967	1 119	1 218	1 315	1 450
Tin Toys	29	20	31	42	—	—	—	—	—	—
Tin Plate	341	537	317	284	135	274	165	113	238	158

78. Production of Tin Plate.

(According to the Statistical Year-book of the German Empire.)

In units of 1000 Tons.

	1891	1892	1893	1894	1895	1896	1897	1898	1899
From welded-iron .	—	0.7	—	—	—	—	—	—	—
From ingot-iron . .	23.5	26 8	27.4	31.3	31.2	34.2	31.5	35.3	34.0

Great Britain.

79. Consumption of Tin.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production	9 418	8 978	8 460	6 754	4 914	4 524	4 722	4 100	4 350	4 600
Imports	29 938	34 095	39 773	42 267	38 988	27 214	20 664	27 609	33 648	35 963
Total .	39 356	43 073	48 233	49 021	43 902	31 738	25 386	31 709	37 998	40 563
Exports	22 365	26 222	27 828	26 801	25 324	20 045	21 441	21 905	25 776	26 854
Balance .	16 991	16 851	20 405	22 220	18 578	11 693	3 945	9 804	12 222	13 709
— Increase of Stocks . . .	—1 085	—2 493	—5 255	—3 670	—4 197			—583		
+ Decrease of Stocks . . .						+3 260	+9 758		+ 340	+ 635
Consumption of Tin.	15 906	14 358	15 150	18 550	14 381	14 953	13 703	9 221	12 562	14 344

The Stocks including Shipments afloat amounted to.

Compiled for 1891—1900 by the aid of the yearly circulars of William Sargant & Co., London, and for 1901 according to the circulars of Ricard & Freiwald, London and Amsterdam, and W. F. Sargant & Sons, London.

Metric Tons.

on the 31st Dec.	31st Dec.	31st Dec.	31st Dec.	31st Dec.	31st Dec.	31st Dec.	31st Dec.	31st Dec.	31st Dec.	31st Dec.
1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
6 503	7 588	10 081	15 336	19 006	23 203	19 943	10 185	10 768	10 428	9 793

80. Exports of Tin Plate from England 1886 to 1901.

Metric Tons.

1886	1887	1888	1889	1890	1891	1892	1893
340 055	359 156	397 562	437 490	428 125	455 104	401 502	385 239
1894	**1895**	**1896**	**1897**	**1898**	**1899**	**1900**	**1901**
359 590	371 977	271 226	276 260	254 969	260 475	277 242	276 003

France.

81. Consumption of Tin.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports of Tin	7 085	7 469	8 137	7 491	8 400	7 642	9 247	6 907	7 124	7 345
Exports of Tin	576	696	633	431	525	489	379	366	375	[illegible]
Consumption of Tin	6 509	6 773	7 504	7 060	7 875	7 153	8 868	6 541	6 749	[illegible]

82. Imports and Exports of Tin Plate (fer étamé incl. fer plombé, cuivré ou zingué).

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports	2 652	3 097	3 898	[illegible]	4 427	6 426	4 565	6 498	10 190	[illegible]
Exports	519	452	328	526	491	[illegible]	422	[illegible]	421	[illegible]

Austria-Hungary.

83. Consumption of Tin.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Production	72	55	58	56	54	48	48	42	40	42
Imports	[illegible]	2 324	3 128	[illegible]	[illegible]	[illegible]	3 789	[illegible]	3 439	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3 479	[illegible]
Exports	90	74	75	78	130	57	96	167	153	[illegible]
Consumption of Tin	2 381	[illegible]	[illegible]	[illegible]	3 264	[illegible]	[illegible]	[illegible]	3 326	3 556

Netherlands.

84. Consumption of Tin.

Note. According to an estimate of Messrs Ricard & Freiwald, London and Amsterdam, the Dutch consumption should not exceed about 200 tons a year. We have therefore inserted the latter figure in our table of consumption XVII on page 19. The Official Dutch Trade Statistics can in no way serve as a basis for the calculation of the Dutch consumption of tin.

United States of America.

85. Consumption of Tin.

Metric Tons.

	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports of Tin	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31 445	33 425
Exports of Tin	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	387	[illegible]	[illegible]	467
Excess of Imports	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32 958
— Increase in Stocks	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]				—3 467
— Decrease in Stocks			[illegible]			[illegible]		[illegible]	[illegible]	—390	
Consumption of Tin	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31 901	[illegible]

The Stocks including shipments afloat amounted to

Metric Tons.

31st Dec. 1891	31st Dec. 1892	31st Dec. 1893	31st Dec. 1894	31st Dec. 1895	31st Dec. 1896	31st Dec. 1897	31st Dec. 1898	31st Dec. 1899	31st Dec. 1900	31st Dec. 1901
3 279	5 579	2 773	3 881	6 932	3 987	4 572	4 370	2 760	2 500	6 450

86. The imports of **Tin Plate** into the united States amounted to

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Metric Tons . .	273 373	257 289	218 570	223 131	121 460	85 461	68 057	60 046	61 545	78 881

87. England, Germany, Austria, Holland, exported **into sundry European Countries** (Denmark, Sweden, Norway, Portugal and the Balkan-States):

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Metric Tons	1 305	1 866	1 765	1 410	1 850	1 600	1 800	1 400	1 700	1 600

88. The following quantities of Tin were exported from England **to non-European countries** (principally South-America, British North-America and Egypt.)

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Metric Tons	977	1112	1038	1033	1092	975	1014	800	1300	1300

89. England, Germany and France **have further exported the following quantities of Tin to various countries not detailed in the English, German or French Trade Statistics:**

in	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Metric Tons	236	368	278	450	400	250	250	350	300	300

90. We have entered in the summary respecting the consumption of Tin (Table XV) the countries specified sub 87, 88, 89 together under the heading **"Other Countries"** i. e.

for the year	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
with Metric Tons . .	2500	3300	3100	2900	3300	2900	3100	2600	3300	3200

SILVER.

Germany.

91. Consumption of Silver.

Metric Tons.

Year	Production of Silver	Imports of Silver	Exports of Silver	Consumption of Silver
1886	319.6	23.8	152.1	191.3
1887	367.6	33.0	156.3	244.3
1888	406.6	79.2	262.2	223.6
1889	403.0	34.2	289.5	147.7
1890	402.9	42.5	279.8	165.6
1891	444.9	69.3	311.0	203.2
1892	489.3	64.1	352.7	200.7
1893	449.3	77.6	450.6	76.3
1894	444.8	190.3	405.9	229.2
1895	392.0	97.8	258.9	230.9
1896	428.4	127.7	305.8	250.3
1897	448.0	147.0	371.1	223.9
1898	480.6	104.7	348.7	236.6
1899	467.6	89.9	294.0	263.5
1900	415.7	167 4	284.8	298.3
1901	403.8	197.9	328.7	273.0

92. Imports and Exports of Silver-Coins.

Metric Tons.

	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Imports . .	50.3	33 8	8.1	13.2	23.4	28.3	29 8	24.1	19.8	17.8	20.8	20.3	40.1	33.4	36.9	40.9
Exports	98.7	62.8	6.4	3.2	2.6	5.8	37.6	29.4	7.7	4.3	31.6	27.7	46.9	8.3	31.8	31.9
Excess in Imports	—	—	1.7	10.0	20.8	22.5	—	—	12.1	13.5	—	—	—	25.1	5.1	9.—
Excess in Exports	47.6	29.0	—	—	—	—	7.4	5.3	—	—	10.8	7.4	6.8	—	—	—

93. Coinage of Silver.

	1000 Mark
For the years 1871—1880	432 096.0
» » » 1881—1884	17 984.5
For the year 1885	2 428.9
» » » 1886	4 848.6
» » » 1887	3 005.6
» » » 1888	4 156.0
» » » 1889	744.0
» » » 1890	—
» » » 1891	4 786.8
» » » 1892	5 201.1
» » » 1893	8 797.1
» » » 1894	4 487.2
» » » 1895	7 672.4
» » » 1896	11 421.7
» » » 1897	—
» » » 1898	15 565.6
» » » 1899	18 261.7
» » » 1900	23 719.7
» » » 1901	30 036.6
Total till end of 1901	595 213.5
Less withdrawn till end of 1901 . . .	30 273.9
Balance	564 939.6

Since 1879, only 1-, 2- and 5-Mark-pieces are coined.

There is no more stock of bar-silver since May 1886.

94. Exports of Silver to British India, China and Japan.

Metric Tons.

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
1. Exports of Silver from **England**										
a) to British-India .	1293.8	1376.7	1218.0	835.8	1074.6	1496.0	1217.2	1377.3	1647.8	1874.1
b) to China including Hongkong . . .	5.1	440.3	691.2	417.6	28.6	41.1	82.6	431.7	431.0	212.7
c) to Japan . . .	383.4	114.7	229.4	42.0	223.2	10.1	—	—	21.9	4.8
2. Exports of Silver from **France** to British-India	13.6	16.1	2.4	2.1	—	—	7.9	—	—	—
3. Exports from **San Francisco** to India, China and Japan . .	91.4	108.9	371.9	392.6	243.3	225.2	114.0	185.6	250.7	230.3

95. The **exports of Silver** from London amounted according to Pixley & Abell's Circular to

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
to Brit. India £	7 229 199	7 052 271	5 012 093	3 624 496	4 905 978	5 805 006	4 312 057	5 260 025	6 696 204	7 600 410
› China . ›	147 882	2 390 969	2 728 771	1 652 523	740 285	559 136	764 750	1 423 840	2 669 884	842 857
› Straits . ›	3 826 739	1 612 513	1 233 446	753 883	827 136	739 203	405 105	286 905	619 554	647 412
Total £	11 203 820	11 055 753	8 974 310	6 030 902	6 473 399	7 103 345	5 481 912	6 970 770	9 985 642	9 090 679

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